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The Ideals of Medical Practice

His Excellency, The Most Reverend Amleto Giovanni Cicognani

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His Excellency the Apostolic Delegate spoke at an informal reception held in the library of the Georgetown University (Washington, D. C.) Medical School, on February 15, 1935. The reception was arranged at the request of Archbishop Cicognani. The text of his address is here published so that the readers of HOSPITAL PROGRESS may be afforded this opportunity as well. —Editor.

THE medical profession, which you have chosen to follow, has acquired everywhere, by reason of knowledge and wisdom, such a high esteem, that it has merited almost to reserve for its members the title of doctor. Of course, there are doctors in every field of learning, but in common parlance this title is usually understood as referring to physicians. This, indeed, is as it should be, because the members of the medical profession are constantly in closest contact with the greatest fact of creation — the fact, indeed I may say, the miracle of human life.

Gift and Right of God

Life is the greatest gift of God. This gift, however, is not given to man absolutely. God, in bestowing it, reserves to Himself the right to regulate it through the laws of nature, and to determine the limit of its earthly endurance. This is God's right, and no one may appropriate it to himself or even interfere with it. He who destroys life, either his own, or that of another, has always been regarded as guilty of a crime of grave nature.

The medical science is directed to preserve and strengthen human life, within the limits determined by Almighty God. The physician has the noble task of studying and taking care of the human body, of alleviating its sufferings and of curing its ailments. He must never forget that the human body is not a machine subject to destruction; it is the temple of God and is destined to participate in the eternal glory of heaven. He must always bear in mind that man is not only body and matter, but that he has a spiritual immortal soul, created to the image and likeness of God. In curing the physical organism of man, the doctor helps to reconstruct the divine temple and it is his great privilege to co-operate in the divine miracle of human life.

In order to fulfill this high mission, the physician needs not only the necessary knowledge, but a profound charity as well. By his profession, the physician is not merely a scientist, he is in a sense a priest of that science which is dedicated to the bodily welfare of the human race.

Catholic Principles

The immutable principles pertaining to the medical profession which Catholic morality has always proclaimed may be summarized in these three points: (1) the physician, in justice, must employ remedies and medicines that are certain; if such are not available, he must use the most probable means at his disposal; and only when there is no other course open to him, may he make use of those means which give only some hope of success; (2) he is not allowed to experiment on a patient, when such experiment may endanger life or health; (3) he must abstain absolutely from illicit operations and the use of illicit drugs; when I speak of illicit operations and drugs, I refer not only to those which are forbidden by civil law, but also and especially to those which are contrary to the divine law.

Catholic morality determines also the manner of applying these principles. But to be brief, I may say that the manner of applying these principles is to be found in the exercise of that commandment which Christ calls His very own — the virtue of charity. The charity of the physician must be sincere, genuine, all-embracing and also, prompt to prepare the way, when necessary, for the spiritual ministration of the priest.

Charity in Medical Practices

You will find yourselves face to face with miseries and illnesses of every description. For you, it will be a professional necessity to overcome the natural repugnance to which such sights and contacts give rise. But a good physician, one who is animated by the proper spirit, not only does not lose his sense of commiseration and sympathy for those who suffer, but the practice of his profession should serve to refine and increase that sense. The physician who is truly and sincerely sympathetic has in this quality of mind and heart one of the most powerful remedies of his profession.

How charitable and patient the physician must be when it is necessary to make lengthy and confidential inquiries preparatory to diagnosis! How kind and sympathetic he must be in treating those nervous disorders, so common nowadays, and which may have no physical foundations! He must exercise a truly patient and paternal charity toward those who need comfort and encouragement in life more than medicinal remedies. Oftentimes the physician will find it necessary to treat a discouraged spirit before he may prescribe with success for bodily ailments.

Happy is the physician who has a deep faith and trust in God, and fortunate indeed he is when called upon to serve patients who are likewise blessed, because faith in God gives a full vision of human life. By it we know that human life is not limited to an earthly existence, but is directed by God to a supernatural and eternal goal: by it we know that the sufferings of this life are the result of man's original disobedience to God and that they are not worthy to be compared with the joys to come.

Abuses and Disorders

Whenever an attempt has been made to destroy the concept of God, or to build up a science which denies or disregards His existence, crimes are multiplied among men, who have recourse even to medicine and surgery to perpetrate them. Hence, although medicine and surgery are directed to preserve and increase life, they are employed instead by some to destroy and prevent it by abortions and by other sinful practices which impede life and contravene the laws of nature. God's right over life is seriously infringed upon by these practices, and what should be the means and instruments of life become the means and instruments of its destruction. These practices are deviations from the correct path of science; they are grave abuses and social disorders; they are prompted by a gross materialism which is detrimental not only to the individual, but to family life and society as well. You understand, my dear students, what I mean, and it is not necessary, I hope, to go into further detail.

It has been a pleasure for me to visit the Medical School of Georgetown University. You are very fortunate in being privileged to make your course of studies in this school, where the principles of Christian morality and the best traditions of the medical profession are uncompromisingly upheld. Such a large group of medical students give rise to the hope and is a guarantee that much good will be accomplished for suffering humanity. I offer you my very best wishes for success in your studies and for success in your profession. I pray that God may shower His choicest blessings on you and your work of the future. I thank you cordially for this gracious reception.

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The Nursing Hazards of Intravenous Medication

Sister Mary Maura Marror, R.N., B.S.

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Introduction

IN the practice of medicine the advantages of supplying, by other than the oral route, not only water and the electrolytes of the blood, but caloric values as well, have become more and more obvious. Under conditions approximately normal, the administration of food, water, and the necessary salts by mouth is sufficient, but in many diseases this route alone is unsatisfactory, either because the stomach and intestines will not absorb an adequate amount of nutrition and water, or because physiologic rest of these organs is indicated. Although the value of intravenous medication has become generally recognized, its value is frequently impaired by reactions of varying degrees. A mild reaction is alarming to a patient, and merits the attendant's notice, while a severe reaction is always dangerous. The searching comparisons of nursing procedures of intravenous medication recently made emphasize the fact that nursing technique plays an important role in the successful administration of intravenous medication. The subject matter, then, of this paper is the nursing hazards of intravenous medication with the view of obviating dangers attendant thereon. To understand better the problems that present themselves, it is necessary to know the uses and benefits of intravenous medication, as well as the symptoms of reactions and the hazards connected therewith.

I. Clinical Uses of Intravenous Medication

An intravenous infusion or injection consists in the introduction of a solution into a vein. Fluid introduced into a vein goes directly into the circulation. It is the surest and most rapid method available for speedily effecting a desired biological effect, and therefore is used in the treatment of conditions requiring immediate augmentation of the volume of circulating fluid as in the case of hemorrhage.

The symptoms of hemorrhage present a more or less well-defined syndrome, depending on the amount of blood lost, and the rate with which it escapes. The patient is apprehensive, restless, thirsty, with cold, moist, pale skin. The pulse rate increases, temperature falls, respirations are rapid and deep, often of the gasping type spoken of as air hunger. As the hemorrhage progresses, the blood pressure and hemoglobin of the blood fall rapidly; the lips and conjunctiva become pallid; spots appear before the eyes; a ringing is heard in the ears, and the patient grows weaker.

If the circulation is good, the fluid is rapidly lost through the kidneys and other excretory organs or by absorption into the tissues, so that the procedure must be frequently repeated. For this reason intravenous infusion should be considered as having only a temporary effect in increasing the volume of circulating fluids. More lasting effects are obtained by transfusion of blood.

Surgical acidosis and shock are so intimately related that it is believed that shock is an intracellular acidosis. Post-operative shock is one of the most serious of post-operative complications, and was for a long time the cause of many operative fatalities. It appears to be associated with extensive tissue injury which is frequently unavoidable during surgical

operation. The symptoms are due to a marked depression of the blood vascular system caused by loss of fluid from the blood vessels. A marked fall in blood pressure results.

The quickest method of supplying an adequate amount of circulating fluid is by introducing physiological saline solution or blood into the veins of the patient. (1)*

Intravenous medication has proved its usefulness in toxemias of pregnancy.

In obstetrics the intravenous administration of glucose solution has now attained considerable importance as a rational therapeutic measure. The usefulness of such injections in toxemias of pregnancy is now well established. (2)

Hyperemesis gravidarum and eclampsia represent two important toxemias of pregnancy that have been intensively studied. The exact pathogenesis is not yet absolutely established in either case. Numerous studies, however, have shown that liver damage is characteristically present in each, and there is an associated disturbance of carbohydrate metabolism. Titus elaborated the theory of carbohydrate deficiency as of etiological significance in pernicious vomiting of pregnancy. He pointed out that the growing fetus makes unusual demands upon maternal glycogen and that at no time other than pregnancy is the patient called upon to supply glycogen in such large amounts. If the diet of the mother is sufficiently high in carbohydrates there should be little or no trouble from toxemia. If, however, the diet is inadequate in this particular, or if for other reasons the liver glycogen becomes exhausted, the hepatic tissue undergoes fatty replacement and degeneration. Liver function then becomes seriously impaired and intractable vomiting further contributes to the starvation, dehydration, and acidosis. Very favorable results have been obtained from intravenous injections of glucose solutions in these cases. In eclampsia, as in hyperemesis, intravenous glucose is conceded to be an important and useful agent, and has reduced the death rate considerably.

Venoclysis has been very successfully used in treating babies with alimentary toxicosis. The clinical picture of alimentary toxicosis in infancy is characterized by intensive diarrhea and vomiting, resulting in dehydration, impaired circulation, disturbed acid base balance, acidosis, and other symptoms.

The pathogenesis of the disease is still subject to discussion. Lately, different theories have again been evolved; namely, the theory of endogenous ascending bacterial infection and the theory of the presence and absorption of toxic substances formed either by the abnormal breakdown of proteins or by bacteria that are absorbed through the damaged wall of the intestinal tract.

The problem of alimentary toxicosis can be divided into two parts, the pathogenesis and the therapy. It is with the latter that we are concerned here. The treatment may be based on the following fundamental ideas:

a) Diarrhea and vomiting once established are no longer specific but are symptoms of an aspecific-hypersensitiveness of the gastrointestinal tract. Everything, even water or tea, may irritate and may sustain or increase vomiting and diarrhea.

b) Dehydration is a secondary resultant due to loss of water, mainly by vomiting, diarrhea, and perspiration. The diseased organism or, rather, the diseased cells are unable to retain either water or salts. There is a tendency to excrete fluid by way of the intestinal tract. This may occur to such an extent that the output of urine suffers until it is almost suppressed. All this leads to disturbances in acid base equilibrium and to blood concentration with accumulation or catabolic products. Forcing fluids by mouth or even by parenteral administration does not necessarily lead to a sufficient retention of fluid. Even such forced fluid may be excreted in this undesired direction; namely, through the intestinal tract. The diarrheic character may increase.

The toxic symptoms of the disease are at least aggravated by dehydration. Therefore a more radical and longer than usual rest for the gastrointestinal tract, and treatment of dehydration with an intravenous supply of fluid is of paramount importance in the plan of therapy.

The intravenous route of fluid supply seems to be the most advantageous one for the continuous administration of fluid. The disturbances caused by fluid injected subcutaneously or intraperitoneally are avoided and the child gets a real rest. Furthermore, subcutaneously administered fluid is not well absorbed in cases in which there is a poor circulation. Hypertonic solutions can be given intravenously without the consideration of absorption, which causes concern when fluid is injected by other routes. (3)

If the fluid contains 5 per cent dextrose complete oral starvation can be resorted to for twelve hours and a further omission of all but water continued for as long as is necessary to stop all symptoms and restore the intestinal tract to normal function. The dextrose serves as food, as a diuretic, and as a stimulant to the heart and other muscles.

Intravenous injections of glucose in cases of neglected pneumonia have produced strikingly satisfactory results.

By this medication, dehydration was avoided, tissues spared, and toxemia reduced. After an intravenous injection a general improvement is noted in the appearance of the patient. The features are less pinched, pulse and respiration are slower, blood pressure is elevated, the tongue becomes moist, and elimination by the kidneys and bowel becomes active. (4)

It is held that in pneumonia the basal metabolism is increased from 20 to 50 per cent. To combat this increased metabolism intravenous injections of glucose are given to supply nutrition in a readily assimilable form.

*Numbers in parentheses refer to corresponding numbers in the list of references at the end of this article.

Such other infectious diseases as diphtheria, tetanus, epidemic encephalitis, tuberculosis, and gonorrhea have been reported as favorably influenced by intravenous injections. Intravenous medication is suggested as an adjunct to more specific measures when the latter are available.

Besides the specific diseases mentioned there are miscellaneous uses of intravenous medication which have given satisfactory results, as in diseases of the heart, skin, and liver. Certain intoxications such as result from mercury and phosphorus are reported as being benefited by intravenous therapy.

II. Benefits Attributed to Intravenous Medication

Various writers have attributed the following benefits to intravenous medication:

1. Increases the volume of circulating fluids that may be deficient as a result of vomiting, diarrhea, hemorrhage, or fever.
2. Supplies a source of food and energy that is immediately available.
3. Combats acidosis.
4. Protects the liver by contributing to glycogen storage:
5. Conserves body tissues by diminishing endogenous catabolism.
6. Satisfies thirst and hunger without risk of gastrointestinal disturbances.
7. Dilutes circulating toxins.
8. Acts as a diuretic.
9. Concentrated solutions normalize osmotic pressure thereby relieving localized edemas.

It is apparent that any medication capable of exerting such profound influences in such diverse directions should have a wide range of therapeutic usefulness. That such is the case may readily be determined by only a casual perusal of the voluminous literature on the subject of intravenous medication.

III. Symptoms of Reactions

Since the beginning of intravenous medication physicians have noted with a varying degree of frequency, the occurrence of systemic reactions coming on shortly after the injections and consisting typically of a chill followed by a sharp rise in temperature, a weak, rapid pulse, profuse perspiration, labored respiration, flushing of the skin, and polyuria. The reaction may disappear promptly though fatalities have resulted.

Reactions may be classed as mild — those that are manifested by a mild elevation of temperature, slight chills and a slight fall in blood pressure — or severe, those with severe chills, cyanosis, nausea, vomiting, a marked fall in blood pressure, and even collapse and death. Severe reactions are always dangerous, particularly since they are likely to occur in very ill cases. It is those cases that would be most benefited by intravenous therapy. (5)

IV. Nursing Hazards

A. Solution

There has been considerable speculation as to the cause of reactions, and various methods of procedure have been adopted to avoid them. It is readily apparent that any solution to be injected into the blood stream must be prepared with the utmost caution. It is in connection with the reactions that the nursing hazards come into play.

The fluids used for intravenous injections are:

1. Blood. This is used chiefly in treatment of acute anemia following hemorrhage, but it is also of value in shock, infections, and blood disease. A donor is selected whose blood is the same type as that of the recipient.
2. Physiological Sodium Chloride Solution 0.9 per cent.
3. Glucose Solution — 5 to 50 per cent strengths.
4. Sodium Bicarbonate Solution — used only in 2.5 per cent strength for the treatment of acidosis.
5. Hartman's Solution. This is a solution of Sodium Potassium and Calcium Chlorides and Sodium Lactate. It is used in the treatment of acidosis and of alkalosis.
6. Ringer's Solution. This is a solution of the Chlorides of Sodium, Potassium, and Calcium in proper proportions. Its special value is in the treatment of dehydration, where because of its more complete salt content, it may be more effective than ordinary physiologic saline.

Recent work has shown that triple distillation of the water used in making up intravenous solutions removes the toxic products of bacterial growth which no doubt have been in a measure responsible for many of the post-transfusion reactions. (6)

Among other factors suggested as causes for reactions hydrogen ion concentration holds a prominent place.

Reactions, as we know them, embody a variable extent of damage to the body physiology from mere elevation of temperature to chills, cyanosis, diarrhea, nausea, vomiting collapse, and death. Even the mildest are uncomfortable to the patient and severe reactions are always dangerous, especially so in very ill cases, which are often, incidentally, the very case wherein intravenous therapy can be of greatest value. The most likely factor is hydrogen ion concentration. (7)

The hydrogen ion concentration of any solution merits discussion. To facilitate mathematical expression of hydrogen ion concentration a logarithmic table of what is known as "pH values" is in use. The symbol pH expresses the acid or alkaline reaction of a solution. If the hydrogen ions H predominate over the hydroxyl ions (OH) in a given solution, that solution will have an acid reaction. If the hydroxyl ions predominate, the reaction of the solution will be alkaline.

The pH of normal blood varies approximately from 7.3 to 7.5. At a pH of 7.0 the tendency is toward acidosis and coma. At a pH above 7.5 the tendency is toward alkalosis and convulsions. Fortunately, nature has provided the means of protection against deviation from normal pH. The buffer substances of the blood, namely, proteins and plasma bicarbonates and phosphates, automatically equalize to some extent both acid and alkalin tendencies. To avoid too great a strain on the protective buffer mechanism, solutions that differ materially in pH from that of the blood should not be injected.

When a glucose solution is heated to the point where

complete sterilization is effected, there is a definite increase in the acidity of the solution. Whereas, it is entirely probable that the protective buffer substances normally present in the blood streams would be fully able to compensate for the increased acidity, it would nevertheless constitute a violation of the principles involved to inject an acid solution in the presence of an already existing acidosis. Such a procedure is all the more unjustified since it is possible to correct the acidity of the solution without adding serious disadvantages. Therefore, when glucose solutions are prepared to be injected in such large amounts as are ordinarily used, it would seem desirable to approximate the pH value of the solution as closely as possible to the pH value of the blood. This can be accomplished by adding sufficient buffer substance to the glucose solution. The buffer substance should be added to the glucose just before the injection.

Two grave and frequently harmful inaccuracies common in the intravenous administration of dextrose solutions are the too rapid injection of the solution, and too low a degree of temperature.

Certain known physiologic facts regarding the rate at which the body is able to take up and utilize injected dextrose are almost totally disregarded in many clinics, with the result that dosage becomes uncertain, large amounts of the injected dextrose are wasted by being "spilled out" through the kidneys, and the expected therapeutic effects are thus vitiated in direct ratio to the excessive speed at which the injection is given. Moveover, to inject cooling or cold solution may be a cause of reactions, and certainly is not ideal treatment for such conditions as postoperative shock. (8)

Wilder and Sansum have shown that an individual can utilize only 0.8 gm. per kilogram of body weight per hour of injected dextrose, and that to give more than this amount by too rapid a rate of injection results in its immediate excretion through the urine.

Titus says that the average single dose of dextrose to be given intravenously to an average-sized adult (150 pounds) should be 75 gm. This is dissolved in 300 cc. of freshly double distilled water, a 25-per-cent solution such as this being preferable to the weaker solutions.

Calculating from the rate of utilization established by Wilder and Sansum, a 25-per-cent solution should be injected into an average-sized female adult at a rate of 3 cc. a minute. A slower rate of flow will eventually give the patient the full dose at an absorbable rate, but this should be the maximum speed. A full dose of 75 gm. in 300 cc. thus requires approximately one and three-quarters hours. The corresponding rate for weaker or stronger degrees of concentration may easily be calculated; for example, a 10-per-cent solution which carries 1 gm. of dextrose in every 10 cc. of water may be given as rapidly as 7.5 cc. a minute to a person of this average weight. The total time required for a given amount of the solid sugar to be utilized being the same, of course, regardless of its dilution in solution.

If the patient weighs less than this average amount, there will be some loss on this account; but if he weighs more, he merely fails to receive the maximum dose in the shortest possible time, eventually receiving and utilizing the entire amount.

In the majority of hospitals, however, it is seldom that more than 20 or 30 minutes is consumed in giving any such injections, and they are invariably followed by the appearance of quantities of sugar in the urine.

For half-grown children, the rate of flow should be reduced to one half, while for infants it should be reduced to at least one fourth.

The actual rate of flow of other solutions of lower specific gravity will be slightly faster than that indicated for dextrose because of the higher viscosity of the latter.

The intravenous drip which is being used extensively and successfully possesses value both as a prophylactic and therapeutic measure. To the surgeon it has proved its worth. It may act as a supportive to maintain the patient through a prolonged or shocking procedure, and it tends to prevent shock, postoperative thyrotoxicosis and certain of the common postoperative intestinal disturbances, such as nausea, and vomiting, postoperative distention and anuria. It is also useful in maintaining normal blood pressure during spinal anesthesia, in toxemias, metabolic abnormalities, in hemorrhage or dehydration.

The rapid intravenous introduction of pharmacologically active or inert chemicals, drugs, and biologic fluids may frequently give rise to immediate and far-reaching nonspecific sequelae, at times serious, and occasionally fatal. This syndrome ("speed shock") includes circulatory and respiratory symptoms, together with alterations in the blood. The reaction is immediate and may include or closely simulate such apparently unrelated phenomena as the anaphylactoid reaction, nitritoid and hemoclastic crises, post-transfusion reactions, peptone shock, and the sudden death that has been described following intravenous injections. These untoward reactions may be avoided by the slow continuous "intravenous drip." (9)

The temperature of the flowing solution should be kept at 105 F. There are numerous heating devices on the market for maintaining the required temperature.

Bulk of the solution has been given as a factor in reactions — Hirschfield acknowledges the possibility of bulk reaction. He believes it exists, but that it is not dangerous and may be abolished by intermittent infusion, or infusion at a slower rate.

B. Apparatus

With the popularization of intravenous medication the number of reactions increased. Investigation proved that the preparation of instruments used for intravenous therapy was too lax and required standardization.

The solution of this important problem depends on the important fact that chills and reactions following intravenous therapy are due to the presence of foreign protein. This protein is either extraneous matter present in the distilled water, or the remains of changed blood proteins from a previous intravenous injection. Unless the instruments are cleansed

with the greatest possible care immediately after a transfusion, minute blood clots and other foreign matter remain in the apparatus. They may cause a chill in the next case. (10)

The main step, therefore, is the cleansing of instruments and the preparation of solutions so that they are rendered absolutely free from foreign protein. This can be done effectively only when the cleansing of the apparatus and the preparation of the solutions used for intravenous therapy are centralized. Only apparatus and solutions properly prepared by competent technicians in a central preparation room should be used for intravenous purposes.

It cannot be emphasized too strongly that needles and tubing should be thoroughly cleaned and rinsed with distilled water before they are autoclaved. One person should be in control of the preparation of solutions and apparatus. (11)

After each transfusion all parts should be separated and washed in cold water for the removal of blood. Then they should be washed in a dilute solution of green soap to which compound solution of cresol has been added to make up about a 1-per-cent solution. After this they should be again washed in tap water and finally washed with distilled water. With this special cleansing process completed they are ready to be assembled and sterilized.

When it is necessary to use new tubing it should be washed well with soap and water, then thoroughly rinsed in running water. It should then be soaked for six hours in a 5-per-cent solution of sodium hydroxide. It should finally be rinsed thoroughly in several changes of water and boiled for ten minutes in distilled water.

The importance of great and exact precautions in the preparation of distilled water, and its proper handling in the making of solutions for use in intravenous therapy is evident. With the constantly increasing demands for such solutions the supply of an adequate amount of distilled water of a purity sufficient to meet the exacting needs of intravenous therapy becomes a necessity which cannot be underestimated.

No such thing as absolutely pure water has ever been prepared. Distilled water of varying degrees of approximate purity may be produced by expert chemists in this respect may require a degree of purity in excess of that required in hospitals for intravenous therapy. Granted an expert chemist, and adequate checks and safeguards applied to every sample of water to be used in a hospital, the apparatus to be used in its preparation would be of secondary importance, but since the average hospital cannot employ an expert chemist for this purpose, and since even the largest hospital need not, it becomes of vital importance to have the needed checks and safeguards built into the apparatus to be used, so that the human factor may insofar as possible be eliminated. (12)

The methods of sterilization used in modern hospitals have become so standardized as to be practically automatic in operation, and they depend even to the slightest possible degree upon the vagaries of the individual who operates the equipment. Consequently breakdowns in sterilization technique are rare as compared with the days before standardization was achieved, and they may easily be avoided by relatively slight supervision. On the other hand, preparation of distilled water, the requirements for which are at least as exacting as those for sterilization, has not arrived at the same degree of standardization in hospital practice, and consequently methods of preparation that bring good results only in skilled hands are being used by an inadequately trained personnel, with the result that in many instances the product cannot be considered safe for intravenous use.

It is well known that most solutions intended for intravenous use deteriorate with time. Consequently solutions which must be kept ready for immediate use in case of emergency must be frequently discarded and replaced with fresh solutions. Unless an easily available source of distilled water is provided, the constant tendency is to keep solutions too long, with results that may be worse than if fresh, even if less pure water were to be used for frequent replenishment of solutions. The difficulty in preparation of distilled water and the amount of skilled labor required in its preparation, diminish the probability of its being on hand when needed.

The needs of the hospital with respect to distilled water may be stated as follows:

1. The water must always be fresh.
2. It must be easily and instantly available.
3. It must be free from bacterial contamination.
4. It must require the minimum of skill for its preparation.
5. It must always conform to the exacting needs of intravenous therapy.

These needs require both continuity and standardization of the process used in the preparation of distilled water for hospital use, and call for a procedure as nearly automatic as possible, but unfortunately these conditions are at present met adequately in relatively few hospitals.

The most exacting standard for distilled water in modern hospital practice is that it be suitable for intravenous use. Unfortunately this standard is one for which there is no chemical test, and the final test is therefore as to whether the water used does or does not, in the presence of conditions otherwise favorable, produce reactions in patients.

The reactions caused by the intravenous injection were studied exhaustively by Seibert. She concluded that these reactions are usually due to bacterial products contaminating the water. She found that the insertion of a simple trap in the distilling apparatus, similar to the trap used in the ordinary Kjeldahl distillations was sufficient to prevent entrainment and carrying over of these substances into the distillate and that reactions were correspondingly diminished. Her work has since received confirmation by Rademaker, and others, and it is now generally accepted

that freedom from suspended particles and dissolved bacterial products, carried over in distillation by entrainment in steam is the first requisite of water intended for intravenous use.

The main purpose, therefore, of insisting upon more than one distillation is to render assurance doubly sure.

> A single distillation in safe hands and with an apparatus designed to prevent the entrainment of suspended particles is sufficient. (13)

His method, however, leaves too much to the human factor for ordinary hospital use. Perkins uses double distillation as an added factor of safety. Our own experience is that single distillation with any apparatus now available is not an adequate safeguard unless there is exercised a degree of skill and supervision not practicable in the usual hospital.

Chemical analyses of distilled water are of interest in indicating the relative efficiency of various types of apparatus, and in showing gross contamination of supposedly distilled water. Granted reasonable purity, however, such analyses give relatively little direct information as to the suitability of any particular sample of water, for the reason that such analyses give no information as to whether particles capable of producing reactions are suspended or dissolved in the water as analyzed.

The essential feature to be stressed again and again is the necessity of water-trap distillation, to prevent the mechanical carrying over of toxins, and immediate sterilization and sealing to prevent the growth of bacteria. Triple distillation is not essential if these precautions are carried out, but they must be carried out accurately and carefully. Any flaw in this mechanism, either in inadequate apparatus, or in delay in sterilization, will nullify all other efforts or precautions taken to prevent reactions.

V. Reports on Intravenous Medication with Reactions

To illustrate the foregoing, several cases with varying degrees of severity of reactions are appended.

A. Case No. 1 — Fibro-Myoma of the Uterus

White female, married, 47 years of age, native of Missouri, was admitted to the hospital on July 28, 1932, because of bleeding from the vaginal tract.

The examination showed her to be a very pale, lemon tinted, well-developed female. She was conscious, rational, and co-operative. There was a soft systolic murmur at the base of the heart, but the heart sounds were distinct. The blood pressure was 130/72. Bimanual examination of the cervix revealed an enlarged, hard, glazed, nodular mass at the introitus, which bled easily when touched. The mass extended down into the right adnexa. The uterus was slightly movable. The radial pulse was 118; the temperature registered 99 degrees; and the respiration was 24 per minute.

The patient stated that she had been feeling fairly well, but had noticed that her periods were heavier than normal. On July 21, she had a severe hemorrhage. She had had four such hemorrhages since that date which almost exsanguinated her.

Blood examination showed white cells, 13,450; red cells, 3,170,000; hemoglobin, 50 per cent. The urine showed faint traces of albumen, and there were occasional red and white cells present.

On July 29, the patient was given a transfusion of 500 cc. of citrated blood. She was comfortable after the transfusion and no reactions occurred. On the following day a second transfusion was given followed by a slight rise in temperature, but no other distress. Twenty-four hours later another transfusion was given. One-half hour after the transfusion was finished the patient had a severe chill which lasted 40 minutes. Her temperature went up to 105 degrees, and she was very irrational. All nursing measures were used to reduce the temperature, but in spite of the efforts made it remained constant for an hour. When the temperature began to subside it dropped steadily, and in the course of another hour the patient was rational and had a pulse rate of 90, temperature 98, and respiration 24. Aside from the alarming condition during the reaction the patient seemed none the worse for the ordeal through which she had gone. Blood examination on the following day showed white cells, 6,100; red cells, 3,630,000, and a hemoglobin of 70 per cent.

A diagnosis of fibro-myoma of the uterus had been made, and the patient was kept in the hospital under observation and treatment in preparation for an operation. On the thirteenth of August the laboratory report showed white cells, 11,250; red cells, 4,110,000, hemoglobin, 80 per cent. At this time the patient was considered fit for surgical interference, and a hysterectomy was performed. The microscopic examination of the uterus showed a fibro-myoma with no evidence of malignancy. It was gratifying to note that although preoperative complications occurred, she made an uneventful postoperative recovery and was discharged from the hospital on September 13, 1932.

B. Case No. 2 — Duodenal Ulcer

Male patient aged 32 years; married, manager of a grocery store, native of Missouri, was admitted to the hospital for diagnostic observation October 5, 1933. His past history revealed the ordinary diseases of childhood, otherwise his health had been good until three years previous to his entry to the hospital.

His present complaint was a pain in the upper right quadrant which frequently radiated back to the right shoulder blade. The first attack occurred three years ago, at which time he had an acute colicky pain in his stomach with nausea and vomiting. These attacks had occurred about every six months. The present attack was the first this year. It started Saturday, September 30, 1933. The patient had breakfast and went to work. He suffered attacks of vomiting every half hour, and the vomitus was greenish and bitter. The patient stayed in bed Sunday, and saw a doctor on Monday. He went to work on Monday and felt all

right until Thursday. He then had generalized pain in his abdomen and vomited several times. He had a continuous gnawing pain in his stomach except for a period of about an hour and a half after meals. He belched frequently and was constipated.

Examination of the abdomen revealed a definite tenderness in the upper right quadrant, and a noticeable muscle rigidity in that area. The liver was not palpable and no epigastric pain could be elicited by palpation.

Laboratory tests of the blood and urine were normal. Radiographs of the gall bladder following the oral method of Iodeikan showed a normal reaction. No stones were seen. Fluoroscopic and radiographic examinations of the entire gastrointestinal tract showed the stomach and pylorus normal and free from pathological evidence. The stomach emptied readily, but there appeared to be a rather constant deformity of the duodenal cap, indicating a duodenal ulcer. The meal progressed normally through the intestinal tract, and there was no evidence of obstruction. No pathology was noted in the small nor in the large intestine.

The diagnosis of a duodenal ulcer was made, and the patient left the hospital October 10, 1933.

On October 27, 1933, the patient re-entered the hospital with the same complaint as on his previous entry.

The laboratory report showed faint traces of albumin and positive acetone in the urine. The blood tests were normal.

Surgery was advised, and the preoperative preparation was a complete rest in bed, Mill's Ulcer Diet No. 11, soda bicarb grains XV T.i.d; and 500 cc. of glucose intravenously daily. A gastric lavage was given on the morning of the operation.

The only intravenous reaction noted was a slight rise in temperature following the injection of the glucose on the first two days but no discomfort was experienced by the patient.

On November 11, 1933, the patient was considered in good condition and a gastroenterostomy was performed. A spinal anaesthesia was used, but the patient complained of pain and ethylene was given. During the operation the patient's blood pressure fell to 110/86, and he was returned to the room in postoperative shock. His pulse was 130 and irregular, and his respiration was 20. The orders given were: digalen 2 cc. every four hours until pulse becomes regular, morphine gr. ¼ for pain, continuous proctoclysis of 3-per-cent glucose and 2-per-cent soda bicarb, 500 cc. of 10-per-cent glucose intravenously three times daily, nothing by mouth for 48 hours. This treatment was carried out during the day and the patient's condition remained critical.

On the first postoperative day the patient was gravely ill. He had vomited an emesis basin two-thirds full of dark maroon fluid, apparently blood and fluids taken by mouth. His pulse rate was 120 and irregular, his temperature registered 100 degrees, and his respiration was 24, white blood count was 20,000 and blood pressure 106/68. He was unable to take the proctoclysis because of pain in the rectum. It was discontinued temporarily to rest the patient. Ice bags were placed on the abdomen. The treatment of the previous day was carried out.

The following day the nausea and vomiting of coffee-ground fluid continued, but there was no evidence of fresh hemorrhage. The pulse continued to be irregular and of slightly less volume. Hemoplastin 2 cc. was injected intramuscularly. The treatment of the previous day was continued. A 1, 2, 2 enema was given but the patient was unable to expel it. A colon tube was inserted and the enema returned clear.

On the third postoperative day the patient was still critically ill. He began to hiccough and CO_2 was given to check the hiccoughs. Soda bicarb ʒ iii was given through the stomach tube. Dark-green fluid returned with a large amount of mucous. There was no change in the treatment on the fourth day.

On the fifth postoperative day 1,000 cc. of normal saline were given by hypodermoclysis. The glucose intravenous was increased to 750 cc. and given twice during the day. Soda bicarb 1 per cent was used to lavage the stomach, and this treatment was repeated in the evening. Codein sulphate one grain was ordered for restlessness.

Next day the condition of the patient was much improved over that of previous days, and the treatment continued. Junket and oatmeal jelly were given and retained. From this day forward the patient showed improvement, and on the ninth day the intravenous medication was discontinued. He improved steadily and was discharged from the hospital on November 22, 1933, in good condition.

C. Case No. 3 — Hyperemesis Gravidarum

Female patient, aged 28, married, a native of Missouri, was admitted to the hospital May 27, 1933, for treatment of Hyperemesis Gravidarum.

The examination showed her to be a tall, well-developed female having frequent attacks of vomiting lasting about five minutes. She vomited from 50 to 100 cc. of a watery mucous fluid, particularly after any excitation or disturbance.

The patient stated that her last menstruation was March 1, 1933. One week later she began to have nausea throughout the day. On April 1, or shortly after, she began to vomit occasionally during the day, but more noticeably in the evening. She had been in bed three weeks prior to admittance to the hospital. No solid food was taken during the three weeks, and very little liquid. She had been taking chipped ice, but later could not retain this.

Her past history revealed the ordinary diseases of childhood; otherwise her health had been good.

Blood examination showed white cells, 11,500; red cells, 4,470,000; hemoglobin, 80 per cent. The urine showed positive acetone and diacetic acid.

The treatment ordered was: absolute bed rest, nothing by mouth, 1,000 cc. of 5-per-cent glucose intravenously, 15 units of insulin to be given after the glucose was started, 20 grains of chloral with 20 grains of sodium bromide by rectum; continuous proctoclysis of soda bicarb and glucose; a soap-suds enema in the evening.

This treatment was carried out the first day and after both intravenous injections a slight elevation in temperature was noted. No discomfort was experienced by the patient, and no ill effects followed.

The second day the same treatment was given. Citrocarbonate ℥1 by mouth was ordered, and sodium luminal grains ii to be given as needed. On the third day it was continued. An ice cap to the throat and frequent mouth rinsings were ordered.

On the fourth day the insulin was increased to 25 units. White soda was taken in sips by mouth and retained. The patient was unable to retain the proctoclysis and it was discontinued. Normal saline 1,000 cc. by hypodermoclysis was ordered.

The fifth day water and white soda were taken in sips by mouth and retained. The other treatment was continued, and the patient's condition was much improved. The intravenous medication was discontinued on the eighth day as the patient was then able to retain a select diet. She remained in the hospital under treatment until June 6, 1933. After leaving the hospital she had no return of the nausea or vomiting and went through a full-term pregnancy.

On December 2, 1933, she re-entered the hospital and gave birth to a nine-pound male infant.

Conclusion

From the results shown in the cases reported some of the immediate advantages of intravenous medication are convincingly demonstrated. It was, in these cases, a life-saving measure in spite of the varying degrees of reaction which occurred.

That certain types of solutions and drugs of established characteristics are unsuitable for intravenous administration is now well understood, and the risks of experimentation should be clear to all concerned. Good judgment on the part of the physician must always be a factor of importance — as in the practice of medicine, always and everywhere. The dangers of using intravenous therapy have been greatly exaggerated.

The technique of intravenous medication must be mastered as thoroughly as that required in any surgical maneuver, and every precaution recognized as necessary in surgical procedure should be rigidly adhered to. The comfort and ease of mind of the patient are even more important than in major interventions, and the successful practitioner of intravenous therapy never forgets its psychic aspects. The utmost care of the solutions used and the surety of their potency and freedom from any deterioration is essential. Attention to these details will lessen the risk of unpleasant after-effects. The elements of danger should be no greater than those which attend every form of medication.

Intravenous therapy properly administered is as safe, effective, and reliable as any known way of administering medicine. Proper training in the details of its use is essential; and its employment by those who are not technically equipped should be discouraged.

Although in general the results of intravenous medication as a therapeutic measure are favorable, and tremendous strides in its administration have been made, the subject still requires limitless, intensive, and open-minded research before it can be used in a satisfactory manner by the medical profession at large.

The nurse in these cases should have been carefully instructed in the use and probable results of this form of treatment; should know well the symptoms and be able to approximate the possible source of untoward reactions if she is to be an intelligent co-operator with the physician or surgeon in charge. Her temperament such that she be a mild and agreeable mental tonic. In short, as much care should be exercised in her selection as in the choice of an efficient and conscientious practitioner.

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Equipment for Hospital Air Conditioning

Horace A. Frommelt, M.A., E.E.

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MODERN air-conditioning equipment, for whatever use, consists essentially of two devices, the one a mechanical refrigerator to reduce the temperature of a so-called refrigerant, and the other a fan to pass, over refrigerant coils, air at a relatively high velocity. The mechanical refrigerator, very similar to those in use for food preservation, circulates a liquid through a so-called cooling coil over which a fan circulates the air of the room to be conditioned. This is the ordinary and first use of air conditioning, such as is necessary in regions where the temperature, as well as the humidity, rise to uncomfortable heights. Air conditioning in this instance consists in cooling and dehumidifying (lowering the moisture content) of the air. But this latest product of our scientific and engineering laboratories is also applied to the heating and humidification (raising the moisture content) of the air in an enclosed space. These operations are evident by reference to Fig. 1 showing both heating and cooling coils, the former located in the top section of the cabinet, the latter in the middle portion. The fans in the lower section circulate the air of the room either through the cooling coils in which flows a refrigerant of low temperature or through the heating coils in which is circulated hot water or steam. The former operation provides cooling and dehumidification, the latter heating and humidification.

Air conditioning in summer temperatures is effected to create a so-called zone of comfort shown in Fig. 2, from which it is evident that as the humidity or amount of moisture in the air increases a relatively lower temperature is required for human comfort. When the humidity is 30 per cent as shown in this diagram the temperature may rise to 85 degrees F. and still be within the comfort zone; if, however, the

FIG. 1. HUMIDIFYING APPARATUS

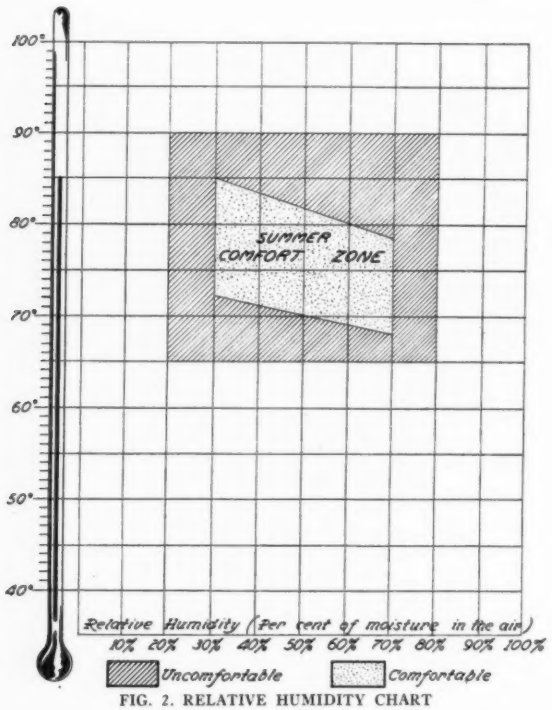

FIG. 2. RELATIVE HUMIDITY CHART

moisture rises to 70 per cent a temperature no higher than 78 degrees F. can be considered within this zone.

Air conditioning in winter temperatures consists not only in heating the air for an enclosed space to a comfortable degree but also in adding a sufficient amount of moisture necessary for both health and comfort. It can be generally stated that it is necessary to add moisture to the air in the winter season, as the moisture content of the air in cold weather is usually lower than is conducive to health.

These simple underlying principles must be clearly understood in the application of air conditioning to the various activities of a hospital. Conditioning suitable for this special application may be effected by using modern air-conditioning apparatus in one or more of three different methods: (*a*) Conditioning by means of the duct, (*b*) by means of the remote apparatus, or (*c*) by means of portable apparatus. An explanation of each follows.

The duct system is shown in Fig. 3 and its operation is easily understood from a brief discussion of this diagrammatic sketch. Outside air drawn through the fan is passed over coils through which flows a refrigerant the temperature of which has been lowered in the conditioning unit. The tempered air is then blown through ducts built into the walls or partitions and leading to the "operating room" shown in the sketch at a level near that of the ceiling. The same duct system can be used to condition the air in any or all the rooms or departments of a modern hospital, though this is economically feasible, usually speaking, only when installed at the time when the building is being erected.

It is, of course, not advisable to install moving apparatus for air conditioning in the operating room of a hospital owing to the danger of igniting such unstable gases as ether and chloroform by static electricity. Fans that are part of the apparatus of cabinets individually installed in a hay-fever or delivery room may generate static electricity dangerous in an operating room filled with highly explosive gases.

The remote system, on the other hand, makes air conditioning economically feasible in an existing institution. The refrigerating machinery is located in a basement or some other out-of-the-way place, small copper tubes, easily and economically drawn through walls or partitions, carry the refrigerated liquid to coils located in a cabinet placed in the room or space whose air is to be treated. The cabinet is of the general appearance shown in Fig. 1. The cooling coils are connected to the refrigerating apparatus placed in the basement or other remote location, and if necessary for the purposes intended, the heating coils, shown in this illustration, can be connected to a hot-water or steam-heating system of the building. The diagrammatic sketch, Fig. 4, makes the general features of this method intelligible. The sketch also shows the method of leading off into a drain the water condensed in the process of cooling the air. The unobtrusive nature of the air-conditioning cabinet is apparent from Figs. 5 and 6, representing the latest method of conditioning air in hospital rooms by this method.

Finally, air conditioning can be accomplished in hos-

FIG 3. DUCT SYSTEM OF AIR CONDITIONING

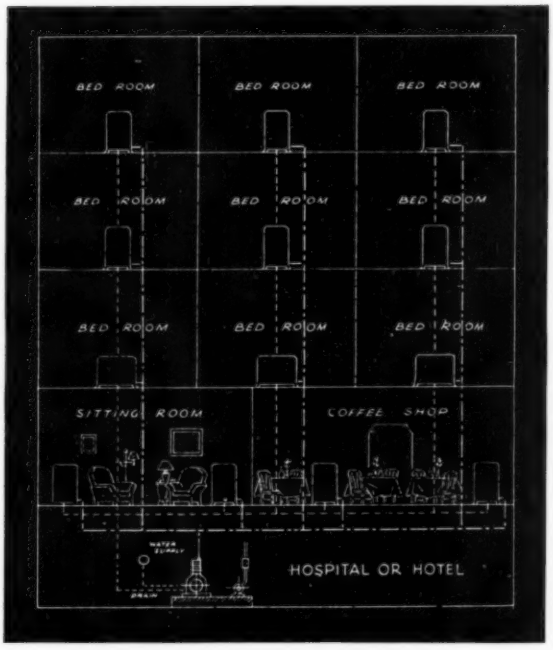

FIG. 4. AIR-CONDITIONING PLAN

pitals by means of the portable self-contained apparatus that can be moved from room to room as desired. Here the mechanical refrigerator, coils, fans, and grilles are compactly assembled on a truck that can be moved from place to place by hand, but all the parts are self-contained and are not connected with a central cooling or heating system. The nature, construction, and operation of the apparatus is very similar to those already briefly described in the foregoing paragraphs, with all of the advantages and disadvantages of such a piece of apparatus.

Automatic control of temperatures and humidities is provided in modern air-conditioning apparatus. A so-called humidistat controls the amount of moisture in the air and the thermostat regulates the temperature. Once the attendant has set these controls, the air conditioner will, within the limits for which the apparatus is designed, maintain the predetermined temperatures and humidities.

Much attention has been given the grilles through which the conditioned air is blown, such as is shown at about the nine-foot level in Fig. 7. These grilles are so constructed that dispersion or distribution of the air can be remarkably controlled. (The lower grille in this figure shown at the floor level is used for the return air, corresponding to the return duct shown diagrammatically in Fig. 3.)

Probably the best system, all things considered, for the modern hospital is the remote set-up with cooling coil, circulating fans, and filters, cabinet-contained, located in each room with the compressor installed remotely. In addition, outside air can be introduced into each room through viscous or steel wool filters.

Allergy rooms, for hay-fever and asthma patients, can be conditioned by the unit system, already referred to; the temperature and humidity should be controlled automatically by thermostat and humidistat.

Air conditioning in hospitals permits the maintenance of low temperatures for fever patients. It removes dust, pollen, and other particles from the air, thereby being of particular benefit to patients with affections of the lungs and respiratory passages. It affords protection, in addition, from disturbance by outside noises because windows and doors are kept closed. Comfortable, cooled operating rooms and wards appeal to physicians, for the sake of both their patients and themselves.

Finally, the initial cost of modern air-conditioning apparatus is not prohibitive and what is of even greater importance, the operation and maintenance is exceptionally reasonable. Definite figures, however, depend entirely upon the individual specifications as well as upon the cost of electrical power in each locality.

FIG. 5. SHOWING AIR-CONDITIONING CABINET

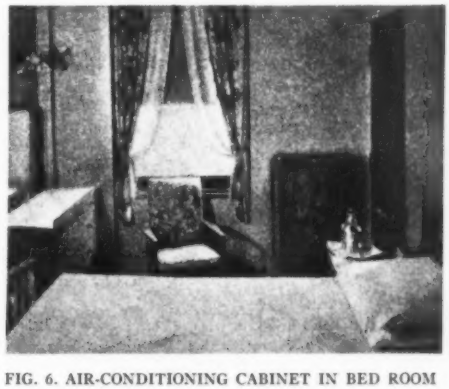

FIG. 6. AIR-CONDITIONING CABINET IN BED ROOM

A Century of Progress

Sister Loretto Bernard, R.N.

INTRODUCTION

Suggestions for the proper commemoration of historical events are always sincerely appreciated by those who have such celebrations in charge. Programs for events in other institutions often contain valuable hints.

An interesting program was presented at the celebration of the National Hospital Day at St. Vincent's Hospital, New York City. A series of tableaux were presented under the general title of "A Century of Progress," portraying local history as well as general medical history. The plan followed was to present tableaux in sections of the stage to contrast the old and the new. During the tableaux a short reading was presented. In these brief essays, an effort was made to intertwine the local history of the institution with the developments in the field of medicine and surgery. In the hope that the plan may commend itself to other hospitals and may, therefore, be of value to the Sisters, we reproduce here the text of the essays and photographs of the tableaux. It will be noted that each tableau has two sections.—Editor.

Tableau I

BELLEVUE Hospital, under City Supervision, had its beginning in the middle of the eighteenth century (1736).

New York Hospital was opened for the treatment of patients in 1771, and until 1870 was located on Broadway and Worth Street.

St. Vincent's Hospital was founded in 1849 by the Sisters of Charity of St. Vincent de Paul. It was the first charity hospital in this city, depending on voluntary contributions. Its early history records the struggles of adversity and the success of patient perseverance and reliance upon Divine Providence.

A three-story brick building located on East Thirteenth Street was rented and furnished, and in 1849 was opened for the reception of patients. Conditions were most primitive. The hospital contained thirty beds. There were no gas lights, no running water, no bathtubs. In 1856 the main building in our present 11th Street hospital was rented. It required extensive repairs and to obtain funds for this, Mother Jerome appealed to the ladies of the Catholic churches of the city. They cheerfully responded and held a grand fair at the Chrystal Palace. The proceeds amounted to $45,000. This was the origin of the Ladies Auxiliary. With this money the Hospital was remodeled and two wings added, and an adjoining lot purchased. In 1884 the building on 12th Street was erected for private patients to help finance the free treatment which increased with the years. In 1899 the present 11th Street building was erected. In 1931 a modern clinic building was added to the group.

The white-walled hospital room of yesterday, with its white-enameled bed and staff atmosphere of fear and coldness, has become a colorful homelike spot where skilfully blended shades and gay chintzes form a background of cheerfulness for the patient, and are most conducive to a happy convalescence.

TABLEAU I. HOSPITAL ROOM A CENTURY AGO, CONTRASTED WITH A MODERN PRIVATE ROOM

TABLEAU II. CENTRAL FIGURES IN THE HISTORY OF NURSING ORGANIZATION AND THE PRESENT NURSING ORGANIZATION

Tableau II

The upbuilding of modern nursing began with the work of St. Vincent de Paul, and in the creation of the Sisters of Charity, and the French women called Dames of Charity, associated with him in hospital reforms. The Sisters of Charity brought youth, enthusiasm, and fresh zeal into nursing. They took charge of hospitals, foundling asylums, homes for the insane and general parish work. They served in the French army and gave heroic service during the Napoleonic wars. The Dames of Charity laid the foundation upon which an excellent hospital social-service department has been developed through the centuries. St. Vincent de Paul's study of social conditions, and his reflections brought him to a most advanced point of view.

The beginning of the nineteenth century saw the revival of the Deaconesses of the early Protestant church, at Kaiserworth on the Rhine. From the nursing standpoint the Deaconesses, like the Sisters of Charity, brought about a great reformation in hospital service and institutional work. They treated patients with loving kindness as individuals, not merely as cases.

Early secular nursing in America has been described by a doctor of the times as follows: "The wards were small and rather untidy; the nurses were Sarah Gamps, for the most part ignorant, indifferent, dishonest. Some looked upon the wine or brandy when it was red. . . . In those days it was with the greatest difficulty patients could be induced to go into a hospital. It was the popular belief that if they went they would never come out alive. No records were kept. The clinical thermometer had not come into use; the patients had to look after themselves; fresh air was not thought necessary. Armies of rats disported themselves about the wards."

In the middle of the nineteenth century the influence of Florence Nightingale affected hospital nursing organization, by means of her words, writing, and activities. In her *Life* we learn of the struggle of the girl to free herself from the artificial conventions of society; we see what a specially cultured, deeply learned woman was able to do in advancing and ennobling the work she chose; we see her in the practical constructive work of a nurse of supreme ability, with literary talents, framing a philosophy of nursing principles which has become classic. We learn to know the personal quality which carried her influence around the world. She was an eminent sanitarian, with an intense passion for hygiene and the conservation of health. She commanded intellectual gifts and insight for affairs which would have sufficed to equip a great statesman and which enabled her to confer in public matters with men in government always as their equal — often as their superior. Florence Nightingale said that nursing was an art — the spirit, the art, and the knowledge of science of nursing are the three essentials. The specially revolutionary feature of her plan for nurse-training was nothing else than the positive mandate that the entire control of nursing staff, as to discipline and teaching must be taken out of the hands of men, and lodged in those of a woman, who must herself be a trained and competent nurse. Miss Nightingale's doctrines in regard to "health" nursing, and her continuous impassioned propaganda for teaching the rules of sanitation and hygiene may be regarded as the

turning point from "visiting" nursing to "public health nursing." Public health is the science and art of preventing disease, prolonging life, and promoting physical health and efficiency through organized community efforts for the sanitation of environment, the control of community infections, the education of the individual in principles of personal hygiene, the organization of medical and nursing service for the early diagnosis and preventive treatment of disease; and the development of the social machinery which will insure to every individual in the community a standard of living adequately for the maintenance of health.

The stages in the professional development of modern nursing during the years to the present day are: (1) First modern schools established. (2) Nursing service extended to home and communities. (3) Beginnings of co-operation in professional organizations. (4) Nursing service in hospitals reorganized. (5) Profession finding a voice in its own press and literature. (6) Controlling nursing practice through legislation. (7) Increasing specialization and extension of education.

Tableau III

A century ago operations were performed only in direct necessity; the shrieking patient was held on the table by strong men, the surgeon, to the detriment of his skill, but in the interests of mercy, was as speedy in his manipulations as possible. On October 16, 1846, William Morton, a dentist of Charlton, Mass., and a student at Harvard Medical School, administered ether to a patient in the Massachusetts General Hospital, during a surgical operation. The demonstration was a complete success.

There are two more events concerning anesthesia to be recorded in this period. One is the discovery of the anesthetic properties of chloroform by James Simpson, an obstetrician. The final events connected with the introduction of ether anesthesia occurred in America. In 1853, Dr. E. R. Squibb perfected his continuous process for the manufacture of ether.

Within the past hundred years, the development of anesthesia has made it possible for all operations to be rendered painless. For a long time ether and chloroform were believed to confer complete protection on the patient, but researches soon proved that the damaging impulses spread throughout the entire nervous system from the point of injury and produced depression and exhaustion in certain vital organs, notably the liver and glands.

It was found after much experimentation that the lighter gaseous anesthetics, nitrous oxide and ethylene, damage the protoplasm but little by comparison with ether and chloroform. These considerations led to a rapid diminution in the use of chloroform and ether, for researches have proved that local, regional, splanchnic, and spinal anesthesia completely prevent shock as well as pain. In our day there has been developed a system of combined anesthesia; local regional splanchnic or spinal in various combinations supplanted by the gaseous anesthetics, nitrous oxide and ethylene as required.

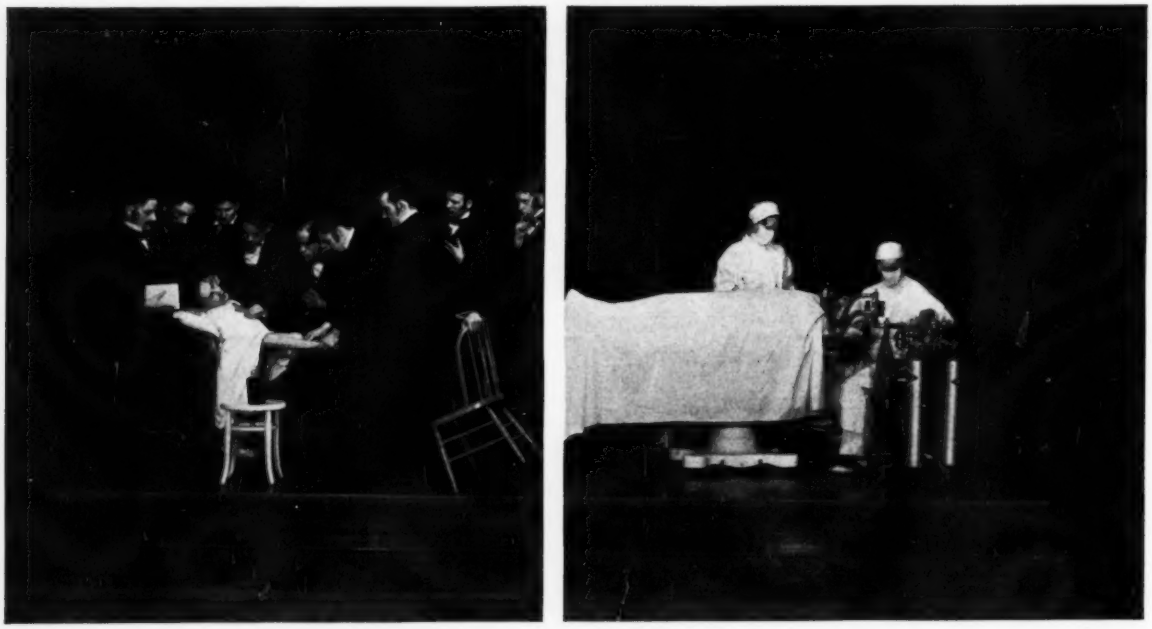

TABLEAU III. THE PUBLIC DEMONSTRATION OF ETHER BY MORTON IN 1846 AND MODERN ANESTHESIA

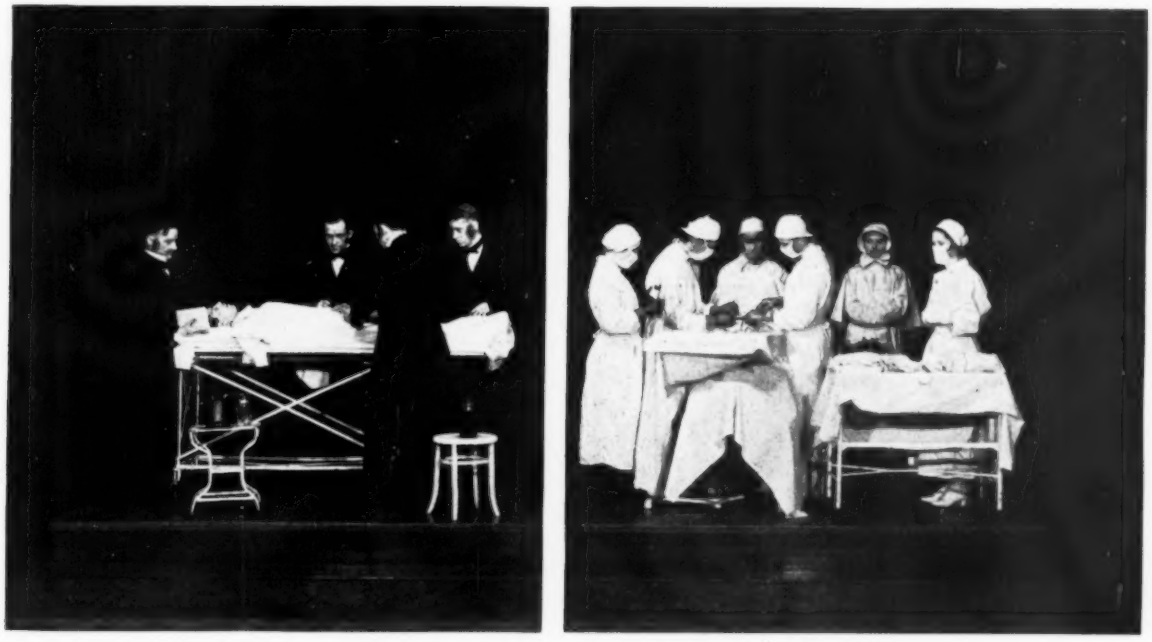

TABLEAU IV. ANTISEPSIS OF A CENTURY AGO AND THE MODERN ASEPTIC THEORY

Tableau IV

One hundred years ago the surgeon himself was the team. It was the stone age of surgery — without anesthetics; without antiseptics; without science; without art; without organization. Instruments were looked after by a man who assisted in the operating room and at post mortems. Nothing was known of sepsis or antisepsis. Surgeons operated with dirty instruments and septic hands and wore coats which had been for years baptized with the blood of their victims. There were no specialties — no tumors were removed from the abdominal cavity; no thyroidectomies were performed; no operation for removal of gallstones; brain tumors were not disturbed; there was no gynecology — no control of infection; no prevention or treatment of hemorrhage. The X-rays had not yet illuminated the body; there was no skin grafting; there were no tonsillectomies or laryngectomies; there was no effective treatment of cancer. A century ago surgical performance had to depend on the hot iron and the swift knife, on a steady hand and a quick intuition. It was the art of a swordsman rather than of a scientist.

The progress of surgery during the past century is a romance. With the discovery of the anesthesia and the establishment of aseptic and antiseptic surgery, based on the scientific foundation of bacteriology, surgery became not only more exact but more conservative. During this period the United States entered the field of medical discovery and development. This is the century of pathology, bacteriology, chemistry, and physics. Lister, in 1863–70 devised his antiseptic "method" of surgical operation and treatment of wounds. At this time it was thought that pathogenic germs remained in the air for indefinite periods. For this reason Lister's technique consisted in keeping a spray of dilute carbolic acid playing about the air of the operating room during the operation. It was gradually learned that this method was superfluous and that much of the infection came not from the air but from the contaminated hands of surgeons and wound dressers. Thus the antiseptic method gave way to the "aseptic" principles of the present day, with entirely satisfactory results.

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Tableau V. Group of Scientists

In the decade 1840–1850 William Morton. the dentist, again appeared. We find that Carl Basedow described exophthalmic goiter; that William Stokes recorded his classical account of heart block; that Thomas Addison wrote on pernicious anemia, and that Rudolph Virchow commenced his studies that were to be consummated in his great thesis of Cellular Pathology. Claude Bernard found experimental medicine in this period. But America, too, had contributions during this decade. Marion Sims, a surgeon of South Carolina greatly influenced gynecological surgery. Dorothea Dix, one of the greatest humanitarians, carried out her pioneer work on the care of the mentally ill. Oliver Wendell Holmes pointed out that puerperal fever was carried from patient to patient by the unclean hands of the physician. Holmes said it could be prevented; Semmel Weiss said that it could be.

In the decade of 1850–1860, we find the publication of disturbances of the adrenal gland by Thomas Addison. New drugs became available, cocaine and physostigmin, the more important ones. The hypodermic syringe found its first uses in America at this period. Carl Crede made his important contributions to obstetrics — the manual expression of the placenta. The tube for the larynx and then the laryngoscope was invented by a Spanish singer at this time. Shortly after the ophthalmoscope was originated by Helmholtz.

When Joseph Lister, England's greatest surgeon, was appointed to the chair of surgery at Glasgow, the general introduction of anesthetics had relieved the sufferer of his agony, but the direct healing of surgical wounds was altogether a rare and singular circumstance, and the mortality from infection was ghastly in the extreme. Patients dreaded the hospital and surgeons distrusted themselves, so much so that the hospital system itself was in danger of passing out of society. It was Lister who corrected all this. More than any one person, he is responsible for "opening the gates of mercy to mankind." Although the aseptic technique has long since superseded the antiseptic method of Lister, it was in the world war where asepsis was no longer possible, that the method first introduced by Lister was finally vindicated.

Turning now to the years 1870–1880, we finally reach the decade in which the bacterial cause of infection was established, probably the most far-reaching discovery in all human progress. Like Lister's discovery of the previous decade, the work of Pasteur and Koch overshadows all other medical events of the time. Yet this was the period that Max Nitze introduced the cystoscope, and Paget made his classical description of ostelitis deformans. Louis Pasteur, a brilliant Frenchman shares with Robert Koch the honor of being the founder of modern bacteriology. After years of careful experimental investigation, he showed that fermentation and putrefaction were due to the action of living micro-organisms, and that each form of fermentation was due to a special micro-organism. The value of Pasteur's discoveries to the agricultural industries, including prevention of chicken cholera and anthrax, have been estimated as sufficient to cover the whole cost of the war indemnity paid by France to Germany in 1870. Pasteur's work on rabies constitutes a no less interesting chapter in the study of disease. Robert Koch in 1882 made the momentous discovery of the cause of tuberculosis and showed that the disease could develop only after infection with the organism. The discoveries of these two scientists attracted world-wide attention at that time, and there was an active search for all disease bacteria, with the result that the majority of the more important pathogenic organisms were identified; the bacilli of cholera, typhoid, diphtheria, tetanus, and meningitis, to name only a few. And it was equally natural that men should seek to protect themselves against bacteria; hence it was in this decade that we have the investigation of bacteria in milk, the first step toward the pure milk of today, a movement that has had an enormous influence upon the decline in infant mortality. Sanitation. sewage disposal, and purification of water, measures that make modern urban civilization possible, had purpose given to them as the result of the bacterial discoveries of this and the previous decade. Preventive medicine had its origin in this decade. It was then that Pasteur discovered the principles of vaccines and proved their value in anthrax, cholera, and rabies. Contrast this period with the sterile years of the Middle Ages, the faltering, halting progress of the Renaissance and the two centuries after it, and we obtain some conception of what the nineteenth-century medical revolution meant to mankind in relieving the age-long and constant threat of disease.

The conception of the insect as a bearer of disease, brings us into the close of the nineteenth century and the opening years of the twentieth. Emil Fischer, professor at Berlin, succeeded in synthesizing caffeine, supplied the structural formula for most of the sugars and linked together great chains of animo acids in a proteinlike structure.

In the last decade of the nineteenth century, physics, made two practical contributions to medicine. Marie and Pierre Curie discovered radium, and William Roentgen discovered the X-ray. Both of these contributions to basic science are seized upon for medical application. X-ray was known throughout the world within a month.

We now enter the twentieth century, a time that engulfs our own days. Medical education has been greatly broadened and made more rigorous; preventive medicine has been organized. In 1905 Schaudinn of Germany discovered the parasite of syphilis. In 1916

Von Wassermann developed the diagnostic serum test for syphilis. In 1910 Paul Erlich announced the discovery of the first of the arsenicals for the cure of syphilis. He developed "606" and "914," now known respectively as Arsphenamine and Neoarsphenamine. Erlich's work marks the beginning of the recent trend of medicine from bacterial to biochemical investigation. The second great achievement of the twentieth century, organotherapy, has beginnings that date back into antiquity. But it is a long span from the ancient man who ate the heart of a lion to save him from cowardice to the man of today who uses liver extract to save him from pernicious anemia; or who takes thyroid extract to save him from myxedema, or insulin to treat his diabetes. Unquestionably the greatest practical result from organotherapy has been the isolation of insulin by Banting and Best.

The researches on Vitamins, those accessory but necessary food substances that exert an almost hormonelike action in promotion of normal bodily function, are still in their infancy. Nevertheless there are those future generations, taller, stronger, more robust, and healthier than we, shall look back at and characterize as perhaps the greatest contributions of the early twentieth century. But no matter how glorious are the potential benefits of science, it is of itself medicine complete. As long as human beings remain human beings, art as well as science, the contact of personality, must remain an integral part of the practice of medicine. It is not to the great research worker, nor yet in industry that we turn when in pain, but to the physician, the man. And the physician of today, aided by science and industry, stands upon the prow of civilization, piloting us toward the peaceful harbor of old age, undisturbed by the terrors which formerly haunted the most intrepid voyager on the sea of life.

Nursing Time Requirements of a Surgical Patient—A Comparative Study of the Nursing Care of Two Herniotomized Patients

Lucille G. Fagan, R.N., B.S.

THE present study was undertaken as one of a series of studies, the primary purpose of which was to establish the factual data upon which the ratio between the number of nurses on general floor duty to the number of surgical cases should be determined.

It will be noted that as a by-product of this primary purpose, the present study throws considerable light upon a number of other important factors in hospital and nursing-service administration: the nursing load at various hours of the day, on different days in the course of an illness, the time occupied in the various phases of nursing attention, and the relation between the time required for strictly nursing procedures as contrasted with the incidental attention given by a nurse to a patient.

It is a truism to say that sufficient time must be allowed to the nurse to do her work properly. If it requires one hour properly to perform a nursing procedure, a loss of four or five minutes would not materially affect the end result but a loss of fifteen or twenty minutes would affect the result quite appreciably. If the nurse is not given sufficient time for performing her nursing duties, several things may happen to the patient or to herself. From the patient's standpoint, all nursing orders may be carried out even if time is inadequate but with the possibility of faulty technique, ineffectual results, and the transmission of infection. On the other hand, only part of the work may be covered and the patients will not get the routine care necessary for personal comfort. From the nurse's standpoint, she may work too hard and incur physical fatigue or even permanent physical impairment. Again, the nurse may feel that she cannot possibly accomplish good results in the time available, no matter how hard she works, so she loses interest, courage, and enthusiasm, thereby forfeiting an opportunity of rendering efficient service in this special field of endeavor.

This time study was made in a private hospital where all patients receive the best of nursing care. Two male (adult) inguinal hernia patients both on general duty were selected for this study. A record was kept of all nursing service during seven days. Each day was divided into three eight-hour periods. Along with other duties a nurse had complete charge of these two patients for six hours daily. The time spent in caring for these patients was tabulated as accurately as possible.

The Nursing Routine

On admission of a patient the nurse accompanies the patient to the room, when he is admitted on the division by the admission Sister. The nurse helps the patient unpack his suitcase and hangs articles of clothing in the closet. Small articles are

kept in the dresser. The patient is put to bed and the intern makes the admission examination. The temperature, pulse, and respiration are taken. A specimen of urine is saved and brought to the laboratory. The Sister Supervisor's attention is called to the new admission.

At 6 a.m. wash water is passed to all patients. Those who are able sponge their own face and hands, and brush their teeth. False teeth are usually taken care of by the nurse. The night nurse takes care of those who cannot help themselves. The bedpan and urinal are given at this time. The temperature, pulse, and respiration are taken. Thermos jugs, water pitchers, and glasses are sterilized in the kitchen and filled with drinking water.

At 7 a.m. breakfast is served. The bedside table is cleared, pillows are adjusted, and the head of the bed is elevated if the patient is permitted to have it raised. When the patient finishes eating, the tray is returned to the kitchen and the head of the bed is lowered. At the time of the other meals the same order is carried out. The water pitcher is filled with fresh water at each meal.

After breakfast the patient is allowed to rest for a while. Then the regular morning care begins. This consists of securing the necessary linens from the linen closet at the end of the corridor and getting the bath water from the utility room. The bedside table is cleared and a double newspaper is laid on the table to protect it. A cleansing bath, alcohol and powder rub is given each day. Very often a patient desires a mouth wash again after breakfast. Particular attention is given to the nails; they are cleaned, cut or filed when necessary. The hair is combed and frequently male patients want to shave at this time and so arrangements are made for that. Shaving water and the requisites are given any time during the day when the patient desires. A barber makes the rounds at the hospital every morning and those who do not shave themselves are shaved by the barber. The bed linens are changed each day. A laundry bag is tied on the foot of the bed for the soiled linens. These are disposed of in a chute at the end of the corridor, opposite the utility room. The ash trays and sputum cups are emptied and cleaned. The room is made tidy and orderly and all the patient's wants are satisfied before leaving the room. The flowers, if the patients have any are taken to the utility room and the water is changed daily. The nourishing drinks are prepared in the kitchenette on each floor and served by the nurse assigned to this task.

The nurse usually sees the visiting doctor or the intern each day, and reports to him the patient's condition. The surgical dressings are done routinely in the mornings, unless the visiting doctor desires to do them later in the day. After the dressings have been securely strapped in position, the nurse repins the binder, straightens the bedding and adjusts the pillows, making the patient as comfortable as possible. The soiled dressings are wrapped in a newspaper and disposed of in the incinerator. The dressing basket is refilled with supplies and made ready for the next dressing. If the patient is exhausted by the dressing, the nurse gives him either a hot or cold drink to refresh and stimulate him.

Dinner is served at noon. After this the backrests are lowered and the bed is straightened. The shades are drawn, the radios are turned off, and the patient rests or sleeps until visiting hours which are between 2 and 4 p.m. The temperatures are taken routinely at 3 p.m. and all those having a temperature of 99.6 or over have theirs taken again at 7 p.m.

After the visitors leave p.m. care is given. Those having orders for enemas usually get them at this hour. Wash water is given and the face, hands, and mouth are cleaned. The hair is combed. The back is rubbed with alcohol and powder and the binder is readjusted. The bed is made comfortable for the patient; if he has been perspiring considerably, the necessary linens are changed. Fresh drinking water is given and the ash trays are emptied. Extra newspapers and all unnecessary articles are disposed of.

Supper is served around 5:30 p.m. At 6:45 the evening temperatures are taken. The day nurse reports to the one coming on at seven all the important happenings of the day.

The visiting hours are from six to eight-thirty at night. After this they are put to bed. They are given a bedpan or urinal. The patient's hands are washed after the bedpan. Some patients want to brush their teeth at bed time. The bed rests are lowered, an extra blanket is given in cold weather, the window is opened if the patient desires it and the flowers are set outside the door. The bed is made comfortable, and if the patient has hot or cold packs they are renewed at this time. The lights are turned off and quietness prevails.

After 9 p.m. the night nurse makes calls to all the rooms at least every hour. Those who had temperatures in the evening have their temperature taken again at 11 p.m. and 3 a.m. All treatments ordered at night are carried out the same as in the daytime.

The charting is done by the nurse who takes care of the patient and gives the treatment. A special nurse is in charge of medicines. Besides having all the orders carried out, she keeps the dressing room cleaned, the medicine cupboard in order, the stock bottles filled, the desk cleaned and supplied with necessary materials. She usually takes the temperatures and is responsible for the graphics.

At this hospital the private rooms have a bathtub and toilet adjoining them. The double rooms have no running water but this is secured at the utility room located at the end of the corridor. The linens are also secured at the end of the hall. These are usually passed out to all rooms after breakfast.

On discharge of a patient, the bed is stripped and dusted. The rubber sheet is washed with lysol, and all basins, bedpans, and urinals are sterilized. The room is left to air overnight, if possible, and is then made ready for a new patient.

Case History and Physical Examination

Patient A. E. V., a white male, salesman, age 24 years, was admitted to St. Mary's Hospital, January 11, 1933, complaining of swelling and pain in right inguinal region.

About three months ago the patient lifted a radio victrola weighing about two or three hundred pounds. He felt a sudden pulling sensation in the right inguinal region near the midline. Immediately following this nothing abnormal was noted except some soreness of a dull aching character. This became more noticeable when any weight was lifted. Three weeks after the incident noted above the patient had a slight, sharp pain in the right lower abdominal quarter and noticed a bulging in the inguinal region about the size of an egg. Since that time the swelling has appeared intermittently, especially when a heavy weight was lifted or sometimes when merely walking around. The swelling also appears sometimes on coughing or straining. Upon lying down the swelling disappears. It has not progressed in size. There is an occasional increase of pain and aching in this region. There has been no nausea, vomiting, or cramping pains present. A diagnosis of hernia was made by the family physician and the patient was sent in for repair of this lesion.

The patient does not remember having had any acute infectious diseases during childhood. His general health has been good prior to this time. The patient now has syphilis in the tertiary stage. He has had no injuries or operations. The patient has had no difficulty with the eyes, ears, nose, or throat. He is not subject to colds. He has had no shortness of breath or edema. There has been no pain in his chest, no chronic cough or expectoration. The patient's weight has been constant, the appetite good. There is no dyspepsia. The bowels move regularly although defecation is sometimes painful. The stools are apparently normal and the patient has never been jaundiced. There is no nocturia, polyuria, dysuria, or hematuria. The patient sleeps well; he is not nervous, has no convulsions or fainting spells.

The patient is a single man who is a salesman for a radio company. His work demands lifting of weights. He does not smoke but drinks alcohol occasionally.

There is no history of tuberculosis, carcinoma, hemophilia or mental disorders in the family. His mother is fifty years old and is in good health. His father died of double pneumonia at 42 years of age. He has one brother living and in good health.

Physical Examination

The physical examination reveals a young male, well developed and well nourished, lying quietly in bed, in no apparent pain or discomfort. The head is essentially negative. The ears show no discharge or mastoid tenderness. Pupils of the eyes are round and equal, and react to light and accommodation. The movements are normal, the conjunctiva is of good color.

The mouth shows evidence of much dental work. Gums show recession with some debris collected at the margins. The tonsils are atrophic. The pillars, tonsils, and pharynx are somewhat reddened.

The isthmus of the thyroid is palpable.

The patient's chest is symmetrical, and the expansion is good; tactile fremitus is normal. The precussion note is resonant; breath sounds are clear but feeble. No rales are elicited on coughing. The voice sounds are normal.

The apex of the heart is not visible or palpable. No thrills or shock are present. The left border extends to midclavicular line. The sounds are fair in quality. The rate is slow. The rhythm is irregular being interrupted by frequent ectopic beats. The heart rate is 84, and the blood pressure is 134 systolic, and 86 diastolic.

The muscles in the abdomen are well developed. No areas of tenderness or rigidity are noted. The liver and spleen are not palpable. There is a slight tenderness in the right lower quadrant rather mild in character. The left inguinal ring readily admits the tip of the finger, and an impulse is felt on coughing. The right inguinal region shows a mass, the size of an egg, which is dull to percussion, and appears on coughing or straining. It is readily reduced. The corresponding ring is wide open, the finger being easily introduced through the ring.

The genitals appear normal.

The extremities are normal, and the reflex are present and equal. No pathological toe signs are noted.

Laboratory Reports

January 11, 1933.

Leukocyte count, 7,500. Erythrocyte count, 5,100,000. Hemoglobin, 80 per cent.

Differential blood count: Stabs, 6 per cent. Segments, 60 per cent. Lymphocytes, 28 per cent. Monocytes, 5 per cent. Eosinophils, 1 per cent.

Clotting time 2½ minutes.

Blood chemistry: Blood sugar, 87. Nonprotein-Nitrogen, 32. Kahn, 3 *plus*. Wassermann — alcohol, 2 *plus;* cholesternized, 4 *plus*.

Urine: 1–11–33, Color, yellow; reaction, acid; specific gravity, 1.008; albumin, sugar, acetone, and diacetic acid, negative. Microscopic examination showed no red blood cells or casts, a few epithelial cells, and an occasional pus cell.

1–12–33. Color, yellow; reaction, acid; specific gravity, 1.018; negative for albumin, sugar, acetone, and diacetic acid. Microscopic examination showed no red blood cells or casts, but some phosphate sediment.

Operative Report

1–13–33: Preoperative diagnosis, right inguinal hernia. Post-operative diagnosis, the same. Operation, Bassini Herniorrhaphy. Began at 10 a.m., and finished at 11:30 a.m. Indirect, right, inguinal hernia. Large amount of preperitoneal fat medial to neck of sac.

What was done: Incision was made into inguinal ligament. Inguinal canal opened, sac isolated, and bluntly dissected from cord. Sac transfixed at neck and tied off. Stump transplanted medially and upward beneath transversalis muscle. Preperitoneal sac at internal ring dissected and removed. Inguinal ligament, conjoined tendon cleaned from internal ring to public tubercle. Four sutures from conjoined tendon to shelving portion of inguinal ligament. Three single sutures of two 20-day catgut to further approximate fascia. External oblique sutured over new canal.

Anesthesia: Narcotic, morphine sulphate, gr. ¼; stropin sulphate, gr. 1/150. Stimulant, ephedrin, gr. 1½. 170 Mg. novocain in 4 cc. spinal fluid. Post-operative condition good.

Doctor's Orders

1–11–33: Light Diet. S. S. enema in evening, and morning. Prepare for right herniorrhaphy. No breakfast. Morphine sulphate, gr. 1/6; atropine sulphate, gr. 1/150 at 8:30 a.m. To operating room at 10 a.m.

1–12–33: Fluids and soft food at liberty. Morphine sulphate, gr. 1/6. Flex knees on pillow. Lower foot of bed at 10 p.m. Discontinue morphine sulphate, give Pantopon, gr. 1/3. Catheterize in twelve hours if he doesn't void.

1–13–33: Mineral oil oz. ½ twice a day. Regular diet.

Phenobarbital grs. 1½ for pain. Hot-water bottle to abdomen. S. S. enema. Colon tube.

1–14–33: Repeat S. S. enema. Hot-water bottle to abdomen. Magnesium sulphate, glycerine, and water enema. Sodium amytol gr. iii.

1–15–33: Morphine sulphate gr. 1/6 for rest and pain. Discontinue sodium amytol. Give 1-2-3 enema this a.m. Phenobarbital gr. i.

1–16–33: Phenobarbital gr. 1½.

1–20–33: S. S. enema stat.

1–24–33: May sit up in bed.

1–26–33: May be up and about.

1–27–33: Discharged.

Progress Notes

1–13–33: Patient taken to operating room, herniorrhaphy performed. Immediate post-operative condition good. Patient took fluids and was nauseated. Was catheterized at midnight, and later voided 50 cc.

1–14–33: Patient complained of nausea, and vomited several times during the day. Distention is relieved by enemas. Temperature slightly elevated. Had a restless night last night. Is voiding normally.

1–15–33: Wound dressed, stay sutures removed. Incision looks good. Temperature and pulse are normal. Patient had a fair night.

1–16–33: Patient is suffering from gaseous distention, and pain in epigastrium. Operative region painful on coughing. Relieved by enemas.

1–17–33: General condition good. Not bothered with gas.

1–18–33: Patient is feeling better today. No gas. Patient receives an enema every day.

1–19–33: Patient had a good night. Feeling much better today. No sedatives needed. Temperature, and pulse normal.

1–20–33: General condition improved.

1–21–33: Improving daily, no complaints.

1–22–33: Condition the same.

1–23–33: No complaints. Temperature, pulse, and respiration normal.

1–24–33: Patient is sitting up in bed today. Had a good night's sleep.

1–25–33: Sat up in the chair today for a few minutes. Wound healed, no discharge.

1–26–33: Patient up in wheelchair. Feels slight fatigue on being up.

1–27–33: Discharge note.

Patient entered the hospital, complaining of bulging in the right inguinal region. It was not constant but only at the time of increased intro-abdominal pressure. Herniorrhaphy was performed and the patient made an uneventful recovery.

Case History and Physical Examination

Patient B. 2 R. S. a male clergyman, age 61, was admitted to St. Mary's Hospital, St. Louis, Missouri, on December 26, 1932, walking, conscious, and rational. He complained of a sharp pain which started in the abdomen, and radiated down into the scrotum.

The patient was operated on nine years ago for a right herniorrhaphy, but a mass and pain reappeared in the right inguinal region four or five years later, and the patient began wearing a truss. Bulging was noticed in the left inguinal region one year ago. Because of this a double truss was secured and has been worn since. One month ago a pain began in the abdomen and radiated down into the scrotum on the right side. This pain has continued off and on, but is accompanied by no nausea, or vomiting. This pain appeared especially after standing, sneezing, or coughing. The diagnosis of a bilateral inguinal hernia was made by his attending physician and the patient sent to the hospital for operation.

The patient had a number of infectious diseases during childhood but remembers only typhoid fever by name. There is no history of sore throat or rheumatism or infectious diseases during adult life and he denies having had any venereal disease. There is no history of injury. One attempt was made to repair his hernia on the right side nine years ago. The patient states that he has not enjoyed good health. He complains of stomach trouble, suffers from indigestion, and gastric distress. Has had gaseous distention for years. There is no pain relative to meals or occurring at night. The patient is a clergyman who is obliged to fast until noon on Sundays, and consequently has frequent headaches. These usually persist from Sunday until Tuesday.

There is no cough or pain in the chest.

Shortness of breath and sometimes dizzy spells are noted, but there is no edema or precordial pain.

The patient has nocturia frequently, but there is no burning or polyuria present.

The patient is single. He has one brother, and one sister living and well. There is no history of constitutional diseases. The patient smokes in moderation, does not drink, and no drugs are taken.

Physical Examination

The physical examination reveals a middle-aged man, resting quietly in bed in no urgent pain or distress. The head is normal in size and shape; the scalp is normal, there are no scars, no masses, or alopecia. The eyesight is good, no glasses are worn. The pupils are equal, and regular, and react to light and in accommodation. The ears show no pathological signs or discharge. The nose is normal, the septum seems to be deviated slightly to the right.

The lower teeth are bad, an upper plate is worn. A considerable amount of dental work has been done. The throat is essentially negative.

The neck gives evidence of no pulsations, no masses, no scars, no eruptions. The lymph glands are not palpable, and the thyroid gland is not enlarged.

The chest expansion is equal and good. No increased tactile fremitus is noted. The chest is resonant throughout. Breath and voice sounds are clear and normal. No rales are noted.

The area of cardiac dullness is not enlarged. The heart sounds are distant, no murmurs are detected. The pulse is regular, equal, and of good volume. The rate is 72. Blood pressure is 160 systolic, and 90 diastolic.

Abdomen is ovoid in type, feels rigid upon manipulation, and the abdominal wall is tense. Liver and spleen are not palpable. There is no area of tenderness.

The right inguinal region shows marked tenderness on entry of the little finger into the canal; the external ring is large. There is no bulging but there is an impulse on coughing. The left inguinal region reveals no tenderness, but there is a marked impulse and bulging on coughing.

The genitals appear normal. The extremities are normal. There are no club-fingers, and no capillary pulsations. Legs show no varicosities, and no pathological toe signs. The tendon reflexes are present and equal.

Laboratory Reports

12–26–32

Leukocyte count, 7,000. Erthrocyte count, 4,900,000. Hemoglobin, 90 per cent.

Differential blood count: Stabs, 4 per cent. Segments, 60 per cent. Lymphocytes, 32 per cent. Monouclears, 4 per cent.

Clotting time, two minutes.

12–27–32

Blood Chemistry: Blood sugar, 85. Nonprotein-nitrogen, 37. Kahn, Negative. Wassermann, Negative.

Urinalysis: Color, pale yellow; transparency, clear; reac-

tion, acid; specific gravity, 1.010. Negative for albumin, sugar, and diacetic acid. Microscopic examination negative. 1–8–33

Urinalysis: Color, yellow; transparency, turbid; reaction, acid; specific gravity, 1.015. A trace of albumin was found, negative for sugar, acetone, and diacetic acid. Examination under the microscope showed no casts or red blood cells, and very few pus cells.
1–10–33

Urinalysis: color, yellow; transparency, clear, reaction, acid; specific gravity, 1.018; albumin, a trace, and sugar, acetone, and diacetic acid negative. Microscopic examination showed many pus cells.
1–11–33

Urinalysis: color, yellow; transparency, clear; reaction, acid; specific gravity, 1.018; A trace of albumin was found. Negative for sugar, acetone, and diacetic acid. Microscopic examination showed an occasional red blood cell, and fewer pus cells.
1–12–33

Urinalysis: Color, yellow; transparency, turbid; reaction alkaline; specific gravity, 1.018. Negative for albumin, sugar, acetone, and diacetic acid. Microscopic examination was negative.

Leukocyte count: 1–2–33, 15,000. 1–8–33, 11,000.

Operative Report 12–27–32

Preoperative diagnosis: Double Inguinal Hernia, recurrent on the right side. Post-operative diagnosis, the same.

Operation: Bassini herniorrhaphy. Began at 8:30 a.m. and closed at 10:30 a.m. What was done: Under spinal anesthesia the inguinal canal was exposed on the right. Failure of muscles to unite revealed a direct hernia sac. It was ligated high up, and a Bassini operation was performed, with transplanting of the cord, and suturing of the muscles under the cord. The same procedure was carried out on the left side. Chronic catgut was used for the muscles, plain catgut, and silkworm stay sutures were used for the skin.

Anesthesia: Narcotic, morphine sulphate gr. ¼, atropine sulphate gr. 1/150. Stimulation-ephedrin gr. ¾. Anesthetic: 200 mg. novocaine in 4 cc. spinal fluid administered intraspinally. Some gas anesthesia was also used in later stages of operation. Post-operative condition was good.

Doctor's Orders

12–26–32: S. S. enema this evening. Prepare for herniorrhaphy at 9:30 a.m. No breakfast. Morphine Sulphate gr. ¼, Atropine Sulphate gr. 1/150 one-half hour before operation.

12–27–32: Liquids-post nausea. Codein gr. i or Morphine Sulphate gr. 1/6. Keep thighs flexed over roll.

12–28–32: Lemonade, and fruit juice, all patient will drink. Enema in the morning. Allonal tablet ii at bedtime.

12–29–32: May have headrest raised slightly. Gradually increase diet. Allonal tablet ii at bedtime.

12–31–32: Enema as needed. Codein Sulphate gr. ½.

1–3–33: Elixir Sodium Bromide dr. ii.

1–4–33: Allonal i and Elixir Sodium Bromide dr. ii.

1–5–33: Saline enema. Elixir Sodium Bromide dr. ii. Allonal tablets ii if necessary.

1–6–33: Allonal tablet ii.

1–7–33: Allonal tablet ii. Sodium Bromides dr. ii.

1–8–33: S. S. enema. Specimen of urine in a.m. Allonal tablet i. Sodium Bromides dr. ii.

1–9–33: S. S. enema in the a.m. Allonal tablet i. Sodium Bromides dr. ii.

1–10–33: Allonal tablet ii. Sodium Bromide dr. ii.

1–11–33: Orders the same as yesterday.

1–12–33: Allonal tablet i. Sodium Bromides dr. ii. Milk of Magnesia oz. i, and cascara dr. ii.

1–13–33: Allonal tablet i.

1–14–33: Allonal tablet i. Sodium Bromides dr. ii.

1–15–33: Orders the same as yesterday.

1–17–33: May sit in chair today.

1–18–33: Milk of Magnesia oz. i, and cascara dr. ii.

1–29–33: May go home today.

Progress Notes

12–27–33: Patient was taken to operating room. Spinal anesthesia was given and operation was finished with gas. Bassini repair was made for a bilateral inguinal hernia. Patient is fairly comfortable this evening. Has been taking some fluids. Knees are slightly flexed over pillow.

12–28–32: Patient resting quietly, is taking fluids, complains of gas pains. Temperature is slightly elevated.

12–29–32: Patient complains of much gas, one, two, three enema was given with some relief. Did not sleep well last night because of some pain in his back.

12–30–32: Patient has his head elevated slightly today. His diet is increased, and he has a good appetite. Patient has a hypodermic this morning of codein for pain. He has been having allonal tablets at night to sleep.

12–31–32: Complains of gas pains. Patient receives enema daily, and is able to pass much flatus. Had a dizzy spell this morning.

1–1–33: Patient slept well last night, and is feeling better today. His appetite is good, offers no complaints.

1–2–33: Condition improving daily. Temperature is 99.6. Resting comfortably in bed.

1–3–33: Patient had codein for sleep last night and slept well. Is not bothered much with gas any more. Seems quite comfortable.

1–4–33: Patient lying in bed smoking, states that he feels fine. Appetite and bowels are good, and no complaint is offered.

1–5–33: Patient is improving daily. Temperature, pulse, and respiration are normal.

1–6–33: Complains of slight headache today, otherwise condition is the same.

1–7–33: Patient is running a temperature of 101.8, complains of general malaise. White blood count is 15,000.

1–8–33: Visiting doctor probed wound, nothing was evacuated. At 10 a.m. temperature was 100, pulse 96, and respiration 22. White blood count was 11,000 and urine was negative. Throat is slightly injected. Lungs are negative as far as can be determined.

1–9–33: At 3 p.m. temperature was 102. Patient is a little nervous about his condition. Elixir Sodium Bromides were given. Urine was negative.

1–10–33: Patient has some discomfort in the region of his wound. Temperature still elevated. At 6:30 p.m. patient passed some "white material" through urethra, examination showed it to be loaded with pus cells.

1–11–33: Temperature lower today. Cito-carbonate started, to be given four times daily.

1–12–33: There is some foul-smelling, purpulent discharge from wound on the right side. Temperature is back to normal.

1–13–33: There is some soreness in region of operation, but no definite pain. Slept well last night.

1–14–33: Wound is still draining. General condition the same.

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1–15–33: Patient improving. Drainage from wound is foul-smelling and quite annoying to patient.

1–16–33: Patient is sitting up in bed. Bowels are O.K., appetite is good, temperature remains normal.

1–17–33: Patient is up in chair today. There is still a slight purulent discharge from operative incision. The infection seems to be superficial.

1–18–33: Patient up in chair for short intervals. Condition improving.

1–19–33: Patient had a headache today. Thinks he smoked too many cigars. No other complaints.

1–20–33: Drainage decreases daily. Patient up in wheelchair today. Feeling fine.

1–22–33: Walking about in room today. Feels a little weak.

1–23–33: General condition improving.

1–24–33: Bowels are good, patient receives enema daily. Condition the same.

1–26–33: Wound dressed, one small portion of wound is still draining, but the drainage has decreased very much. Temperature, pulse, and respiration normal.

1–27–33: Wound dressed, one small portion of the wound near inferior angle is still draining, but drainage has decreased very much.

1–28–33: Patient up and about, does not have any complaints.

1–29–33: Discharge Note: Patient entered the hospital complaining of pain in the abdomen radiating into the scrotum, also had bulging in both inguinal regions. Diagnosis of bilateral inguinal hernia, direct, recurrent on right side was made. Patient was operated on, recovery was uneventful, and the patient was discharged improved.

Method

The method employed in this study was a comparison of the time required for giving nursing attention to two Herniotomy patients both on general duty. In making the study a seven-day period was chosen each day being subdivided into three sub-periods, the morning period extending from 7 a.m. to 3 p.m., the evening period, from 3 p.m. to 11 p.m. and the night period from 11 p.m. to 7 a.m. An effort was made to chart each nursing procedure with a statement of the exact time required for its performance. Since the patient during these periods was entrusted to different nurses, all nurses who had any contact whatsoever with either of these patients were fully instructed concerning the significance of the study and the method employed in carrying it out. It may be stated with considerable confidence that this change in nursing personnel had no appreciable bearing upon the conclusions of this study. The basis for this statement is the fact that in the various forms of tabulation which had to be adopted to carry out the study, a discrepancy of only 19 to 24 minutes was discovered in seven days, an error of approximately one fifth of 1 per cent.

Factors Which Influence Nursing-Time Requirements

It is obvious that many factors influence the nursing time required by the patient independently of such factors as the seriousness of the patient's condition, his reaction to the various influences of the postoperative period, the type of medical attention which he is receiving, the number of visitors who call. The patient's personality cannot be overlooked, some patients requiring much more personal attention than others. In the present study Patient A required a considerable fraction of the nurse's attention and of her effort. He had many visitors who clumsily at times anticipated his needs consequently he asked for and had to be given many personal attentions suggested by any frequent visitors. The patient himself was, on the other hand, slow and somewhat dilatory in carrying out requests made for his co-operation. Patient B was intelligent and eager to co-operate though introspective and inclined to worry about trifles. He was accustomed to have his own way and often enough he was amused when this was denied him. He was inclined to smoke more than he should; he was talkative and often delayed or detailed the nurse through lengthy conversations. On the other hand, he was thankful for all services and expressed his gratitude. He was inclined to be nervous and needed sedatives during most of his stay in the hospital.

It would be interesting, to be sure, to give in detail the various nursing procedures with the time required for performing each for the entire period of seven days. Since this must be considered impracticable, we submit as a sample of the method of keeping protoculs and estimating time requirements the record for the morning period of the second day, the evening period of the third day, and the night period of the fourth day. The reader is hereby assured that the entire record is fairly well represented by these three samples.

Second Day

Morning Period, 7 a.m. to 3 p.m.

a.m.		*Minutes*	*Seconds*
9:15	Morphine sulphate gr. 1/6, atropin sulphate gr. 1/150	6	10
9:45	To operating room. Surgical bed made	9	30
	Charting	4	
11:30	Returned awake. Patient perspiring freely. Pulse 102, respiration 18. Confer with visitors	7	45
12:00	Linens changed	9	
	Doctor here and left orders	3	40
	Charting	4	
p.m.			
1:00	Prepare and give lemonade	8	
	Emesis of same. (This basin must be emptied in the utility room at the end of the hall.) Hands sponged	5	20
	Call for cracked ice	3	45
2:30	Pillows under knees adjusted	6	35

Third Day

Evening Period, 3 p.m. to 11 p.m.

p.m.		*Minutes*	*Seconds*
3:00	Temperature 98.6, pulse 82, respiration 18	2	45
	Complaining of severe gas pains	3	20
	Enema given by orderly	7	
	Results poor, colon tube inserted	5	10
	Hot-water bottle to abdomen	3	
	Charting	3	30

4:30	Face and hands sponged, alcohol, and powder rub. Fresh water given	15	
5:30	Supper brought to bedside, patient fed	11	
6:00	Patient voided, and soiled dressing	5	
	Intern called to change dressing	12	30
	Luminal tablet i; emulseral oz. ½ given	3	
	Charting	3	
	Soda given	3	50
	Temperature 100.4, pulse 72, respiration 24	3	
	Colon tube removed, patient made comfortable for sleep	11	
9:00	Luminal tablet i	3	30
	Charting	1	20
10:30	Patient complaining of much pain, has not slept, alcohol and powder rub, pillows changed, etc. Luminal gr. 1½	10	15

Fourth Day

Night Period, 11 p.m. to 7 a.m.

		Minutes	*Seconds*
12:00	Fresh water, pillows turned	4	10
	Charting	2	
1:30	Answer call. Patient complaining of severe pain in abdomen	4	
	Enema given, results fair. Patient voided	10	20
4:00	Colon tube inserted	4	20
	Soda given	3	45
	Patient talking irrationally and very nervous	9	
	Hot water to drink	4	10
6:00	Temperature 99, pulse 90, respiration 18	3	40
	Face and hands sponged, fresh water given	6	20
	Charting	4	10

Periodic Day-by-Day Nursing Requirements of Two Operated Herniotomy Patients

Table I presents our findings for the total time required each day and in each of the three sections of each day for the various nursing services rendered to the two patients. It will be noted that in the case of both patients the diurnal nursing-time requirement of the first patient varied between a minimum of two hours and 32 minutes and four hours and 57 minutes and of the second patient, between two hours and one minute and four hours and eight minutes. In both cases by far the greater amount of nurse's time was required each day during the first period and relatively little during the second. While Patient A, however, required almost as much time during the evening period as he did during the morning period, Patient B required approximately only half of the amount of time during the evening period as during the morning period.

TABLE I. Periodic Day-By-Day Nursing Requirements of Two Operated Herniotomy Patients

Day	*1st Period 7 a.m. to 3 p.m.*	*2nd Period 3 p.m. to 11 p.m.*	*3rd Period 11 p.m. to 7 a.m.*	*Total 24 hours*
	Patient A Nursing-Time Requirement			
1	1 hr. 7 min.	1 hr. 8 min.	33 min.	2 hrs. 48 min.
2	1 hr. 51 min.	1 hr. 40 min.	1 hr. 15 min.	4 hrs. 46 min.
3	2 hrs. 5 min.	1 hr. 57 min.	55 min.	4 hrs. 57 min.
4	1 hr. 37 min.	1 hr. 10 min.	26 min.	3 hrs. 13 min.
5	1 hr. 29 min.	1 hr. 8 min.	39 min.	3 hrs. 16 min.
6	1 hr. 7 min.	54 min.	21 min.	2 hrs. 32 min.
7	1 hr. 2 min.	1 hr.	32 min.	2 hrs. 34 min.
Total	618 min.	537 min.	291 min.	1,446 min.
Percentage	42.7	37.1	20.1	99.6
	Patient B			
1	2 hrs. 30 min.	1 hr. 11 min.	28 min.	4 hrs. 9 min.
2	1 hr. 43 min.	1 hr. 27 min.	58 min.	4 hrs. 8 min.
3	1 hr. 58 min.	43 min.	21 min.	3 hrs. 12 min.
4	1 hr. 7 min.	54 min.	22 min.	2 hrs. 23 min.
5	1 hr. 20 min.	39 min.	22 min.	2 hrs. 21 min.
6	1 hr. 27 min.	53 min.	25 min.	2 hrs. 45 min.
7	1 hr. 13 min.	30 min.	18 min.	2 hrs. 1 min.
Total	678 min.	387 min.	194 min.	1,259 min.
Percentage	53.9	30.7	15.4	99.6

Comparative Daily Nursing-Time Requirements[1]

For the purpose of throwing the significant factors into greater relief, we present Table II, in which the two cases are contrasted, not only with their time requirement by days but also by percentages of the total time requirement. Patient A required a total of 1,446 minutes of the nurse's time and Patient B 1,259 minutes. Of the total nursing time required by Patient A, approximately one fifth of the time was given on the second and third day, the operative and the first post-operative days. On the remaining five days approximately 10 per cent of the total time requirement was given. Patient B differs significantly from Patient A in the amount of time required on the first day but since this was the day of the operation the requirements do not differ so very significantly from

TABLE II. Comparative Daily Nursing-Time Requirements for Patient A and Patient B

	Nursing-Time Requirements			
	Patient A		*Patient B*	
Day	*Nursing Time in Minutes*	*Percentage of the Total Nursing Time*	*Nursing Time in Minutes*	*Percentage of the Total Nursing Time*
1	168	11.6	249	19.7
2	286	19.7	248	19.6
3	297	20.5	192	15.2
4	193	13.4	143	11.3
5	196	13.4	141	11.2
6	152	10.5	165	13.0
7	154	10.5	121	9.6
Total	1,446	99.6	1,259	99.6

TABLE III. A Comparative Statement of the Gross Nursing-Time Requirements for Patient A and Patient B by Various Periods of Service

	Nursing-Time Requirements			
	Patient A		*Patient B*	
Periods	*Nursing Time in Minutes*	*Percentage of Total Nursing Time*	*Nursing Time in Minutes*	*Percentage of the Total Nursing Time*
1	618	42.3	678	53.9
2	537	37.1	387	30.7
3	291	20.1	194	15.4
Total	1,446	99.9	1,259	100.0

[1]From this point onward in this paper the discussion and the tabulations are a result of a recasting and a restudy of the data accumulated by the author. — *Editor.*

TABLE IV. Relative Nursing-Time Requirements for Patient A and Patient B by Various Periods of Service

Day	1st Period 7 a.m. to 3 p.m. Nursing Time in Minutes	1st Period 7 a.m. to 3 p.m. Percentage of Daily Nursing Time	2nd Period 3 p.m. to 11 p.m. Nursing Time in Minutes	2nd Period 3 p.m. to 11 p.m. Percentage of Daily Nursing Time	3rd Period 11 p.m. to 7 a.m. Nursing Time in Minutes	3rd Period 11 p.m. to 7 a.m. Percentage of Daily Nursing Time	Total 24 hours Nursing Time in Minutes	Total 24 hours Percentage of Total Nursing Time
Patient A — Nursing-Time Requirements								
1	67	39.8	68	40.4	33	19.6	168	11.6
2	111	38.9	100	34.9	75	26.2	286	19.7
3	125	42.0	117	39.2	55	18.8	297	20.5
4	97	50.2	70	36.2	26	13.4	193	13.4
5	89	45.4	68	34.7	39	19.8	196	13.4
6	77	50.6	54	35.5	21	13.8	152	10.5
7	62	40.2	60	38.9	32	20.7	154	10.5
Total	618	42.7	537	37.1	291	20.1	1,446	99.9
Highest Nursing Time	3rd day 125	6th day 50.6	3rd day 117	1st day 40.4	2nd day 75	2nd day 26.2	3rd day 297	3rd day 20.5
Lowest Nursing Time	7th day 62	2nd day 38.9	6th day 54	5th day 34.7	6th day 21	4th day 13.4	6th day 152	6th & 7th day 10.5
Average Nursing Time	88.2 min.		76.7 min.		41.5 min.		207.5 min.	
Patient B								
1	150	60.2	71	28.4	28	11.2	249	19.7
2	103	41.5	87	35.9	58	23.3	248	19.6
3	118	61.4	53	27.6	21	10.9	192	15.2
4	67	46.6	54	37.7	22	15.3	143	11.3
5	80	56.7	39	27.7	22	15.6	141	11.2
6	87	52.7	53	32.1	25	15.1	165	13.0
7	73	60.3	30	24.7	18	14.8	121	9.6
Total	678	53.9	387	30.7	194	15.4	1,250	99.6
Highest Nursing Time	1st day 150	7th day 60.3	2nd day 87	3rd day 37.7	2nd day 58	2nd day 23.3	1st day 249	1st day 19.7
Lowest Nursing Time	4th day 67	2nd day 41.5	7th day 30	7th day 24.7	7th day 18	3rd day 10.9	7th day 121	7th day 9.6
Average Nursing Time	108.5 min.		58.5 min.		38 min.		185 min.	

that of Patient A. The time required for nursing attention to Patient A was much more evenly distributed than it was in the case of Patient B.

Gross Nursing-Time Requirements

Table III presents the nursing-time requirements according to the different daily periods. Patient A required 42.3 per cent of the total nursing-time requirement during the morning period as contrasted with 53.9 per cent required by Patient B. During the evening period Patient A required 37.1 per cent of his total nursing time and Patient B only 30.7 per cent, while during the night period Patient A was given 20 per cent of his total nursing-time requirement and Patient B only 15.4 per cent.

Relative Nursing-Time Requirements by Periods of Service

Table IV presents these facts from a slightly different viewpoint, enabling the reader to determine at a glance what percentage of each day's nursing attention was given in the case of both patients during the different periods of the day. Thus to take the first line of Patient A on the admission day — Patient A received 67 minutes of attention during the first period, 68 minutes during the second period, and 33 minutes during the third period, a total of 168 minutes on the first day. In other words, 39.8 per cent of the attention on this day was given on the morning period, 40.4 per cent in the evening period, and 19.6 per cent during the night period. All the other lines of the table are to be read in the same way. An inspection will show that during the morning period Patient A was given between 38.9 per cent and 50.6 per cent of the daily nursing-time requirement; during the evening period, between 34.7 and 40.4 per cent and during the night period, between 13.4 and 26.2 per cent. Patient B showed time percentile requirements considerably diverse from those just described, demanding during the first day between 41.5 and 60.2 per cent of his daily attention; during the second period, between 24.7 and 37.7 per cent and during the night period, between 10.9 and 23.3 per cent. In other words, the attention given to Patient B was decidedly more concentrated into the hours between seven in the morning and three in the afternoon than in the case of Patient A, while Patient B received decidedly less care during the night period than Patient A. The reader will easily discover many other interesting and suggestive similarities and contrasts.

The Various Classes of Nursing Services Rendered

Table V is most significant. In it we have tabulated the time requirement for the various classes of services rendered by the nurse on behalf of the patient for the entire seven-day period. The designation of services which we have chosen may not prove universally acceptable. We have, however, avoided a too-embrac-

TABLE V. Relative Nursing-Time Requirements for the Various Classes of Services Rendered Patient A and Patient B

Services	Nursing-Time Requirements			
	Patient A		Patient B	
Time Required for—	Nursing Time in Minutes	Percentage of Total Nursing Time	Nursing Time in Minutes	Percentage of the Total Nursing Time
Nursing Procedures	328.66	21.9	414.1	32.6
Care of Bed and Room	327.57	21.8	220.0	17.3
Visits of Inspection	114.66	7.7	101.2	7.9
Nursing Procedures Associated with Patient's Elimination	155.88	10.6	92.5	7.2
Medication	99.75	6.8	66.0	5.2
Charting	86.25	5.8	59.6	4.7
Taking Temperature and Pulse	58.75	3.9	60.5	4.7
Conferences with Physician	54.66	3.7	17.5	1.3
Summoning the Physician	14.33	1.0	12.0	0.9
Food Service	214.25	14.6	177.3	13.9
Flowers, etc.	14.75	1.0	46.5	3.5
Total	1.469.01	98.7	1,267.2	99.2

ing terminology and have maintained details in the interest of greater usefulness of the table.

Of the total number of minutes given by the nurse to Patient B, 32.6 per cent, or approximately one third, were given to strictly nursing procedures, while in the case of Patient A only 21.9 per cent of the nurse's time was devoted to such duties. Patient B required 17.3 per cent of the nurse's time for the care of his bed and room, whereas Patient A required 21.8 per cent. The amount of time devoted to food service was approximately the same in the case of both patients, the difference being one of only one half of 1 per cent. Visits of inspection required approximately the same percentage of time in the case of both patients as did the time requirement for medication, for taking temperature and pulse, and for summoning the physician. Charting took about one fifth time longer in the case of Patient A than it did in the case of Patient B. Conferences with physicians concerning Patient A took almost three times as long as did the conferences concerning Patient B, while the time devoted by the nurse to nursing procedures associated with the patient's elimination was one third longer in the case of Patient A than in the case of Patient B.

In both cases only one tenth of the time of the nurse was devoted to duties which might have been performed by others than the nurse.

Data for the Organization of Nursing Service in a Hospital Division

The data which we are here presenting may be utilized as a basis for the organization of the nursing service in a division of a hospital. The total length of time, in minutes, required to nurse Patient A was, as already stated, 1,469 and for nursing Patient B 1,267. The total number of minutes in a seven-day period amounts to 1,080; assuming that other patients are equally in need of service as these two patients were, it is clear that an individual nurse could, as a maximum, take care of seven or eight patients on general floor duty. This conclusion must, however, be further modified, due to the influence of two factors as revealed in the present study, first the probable necessary loss of time which varies relatively more than the variation of the actual time required for strictly nursing duties. This fact is not clearly revealed by the facts summarized in Table V for the simple reason that Patient A and Patient B were not being taken care of simultaneously. Due to the method of this investigation, it may be assumed that attention given to these two patients at different times was highly concentrated and that unconsciously even the nurse was interested in actually measuring the time given to her service. The psychological influence of such a procedure tended probably toward an appreciable acceleration. It would not be fair, therefore, to conclude that if two equally sick and equally exacting patients were nursed simultaneously the amount of time required by them would be only double that required by an individual patient; similarly, if three, four, or more patients are being cared for by the same nurse on general duty. Other observers have noted that beyond a certain point of maximum efficiency time is lost when a greater patient load is placed upon the nurse.

A second consideration which tends to modify the conclusion that three nurses on eight-hour periods can take care of seven to eight patients arises from the fact that during the three periods of the day the nursing-time requirements of the patients are noticeably diverse. The minutes in an eight-hour period number 480. Of this total, during the morning period of the day, from 7:00 a.m. to 3:00 p.m., Patient A required 88.2 minutes and Patient B 108.5 minutes. Patient A, therefore, during the entire morning period required 22 per cent of her total available time and Patient B 18 per cent of the total available time. During the morning period an individual nurse, working at maximum possible efficiency, can take care of only from four to five patients. During the evening period, from 3 p.m. to 11 p.m., the care of Patient A consumed a total of 15.8 per cent and Patient B 12.8 per cent of the total possible nursing time. In other words, during the evening period, a nurse could take care of from six to eight patients. Finally, during the night period, on the same basis and by the same method of cal-

culating, Patient A required 9.5 per cent and Patient B 7.9 per cent of the total available time. During this period of the day, therefore, again making the assumptions which we have already made, the individual nurse could take care of from eleven to fourteen patients.

A third consideration here suggests itself as an obvious conclusion from these studies. A well-organized surgical division, assuming that patients can be allotted beds entirely free, would naturally contain patients who are "staggered with reference to their nursing requirements"; that is, some patients on the floor or on the division will be spending a preoperative period, others will be spending their operative day and still others their first, second, etc., post-operative day. The highest nursing requirement of the patient may be assumed to occur on the preoperative, on the operative, and on the first post-operative day with, however, a possibility of a higher nursing requirement on the second post-operative day. Subsequent to the second post-operative day, however, the nursing requirements, assuming an uneventful convalescence, tend to decrease. This fact again, sufficiently clear from general observation, is clearly stressed by the data presented in Table IV. It may, however, be pointed out that perhaps this fact is not always clearly kept in mind in the details of the organization of a nursing service.

Summary and Conclusions

1. The paper presents a comparative study of the nursing-time requirement of two herniotomized patients during a seven-day period.

2. The unified nursing procedures for both cases have been briefly summarized.

3. The history of the two patients is included.

4. A discussion is presented on the method of the investigation and a brief reference to the factors which influence the nursing-time requirement of the patient.

5. During the seven-day period Patient A required a total of 1,446 minutes and Patient B a total of 1,259 minutes. These totals are distributable to the three nursing periods as follows: to the morning period (7 a.m. to 3 p.m.) 618 minutes for Patient A and 678 minutes for Patient B; to the evening period (3 p.m. to 11 p.m.) 537 minutes for Patient A and 387 for Patient B; to the night period (11 p.m. to 7 a.m.) 291 minutes for Patient A and 194 minutes for Patient B. (See Table I.)

6. The daily nursing-time requirement in percentages of the total nursing-time requirement varies from, in the case of Patient A, 10.5 per cent on the sixth and seventh days to 20.5 per cent on the third day; in the case of Patient B, from 9.6 per cent on the seventh day to 19.7 per cent on the first day. (See Table II.)

7. The total period nursing-time requirement in percentages of the total nursing-time requirement varies in the case of Patient A from 20.1 per cent during the night period to 42.3 per cent during the morning period and in the case of Patient B some 15.4 per cent during the night to 53.9 per cent during the morning period. Both patients required more nursing time during the morning period, less during the evening period, and least during the night period. (See Table III.)

8. To gain a synoptic view of the whole investigation with special reference to the relations of the nursing-time requirements in various periods to the nursing-time requirement on the various days of illness. Table IV has been prepared. This table furthermore enables the reader to make an accurate comparison of the differences in the nursing-time requirements of the two patients.

9. The nursing procedures and the care of the patients' rooms and beds demanded in the case of both Patient A and Patient B approximately one half of the nurse's time. The other half of her time was taken up as follows: by food service, three tenths of the time; by nursing care incident to elimination, two tenths of the time; medication, charting, temperature, conferencing with physicians, each approximately one tenth and the remaining one tenth was taken up with care of flowers, inspection visits, and incidental duties.

The data presented suggests hints for the organization of nursing service in a hospital division. Assuming equally sick and equally exacting patients as those here studied and assuming, furthermore, maximum possible continuous efficiency, an individual nurse can take care of seven to eight patients on an average.

10. When attention is directed, however, to the nursing-time requirements during different periods of the day the data shows that in making the same conclusion as in No. 9 above, the nurse can take care of only four to five patients during the morning period, seven to eight patients during the evening period, and ten to fourteen patients during the night period.

Symposium on Blood Diseases

A symposium on blood diseases with three distinguished physicians taking part will be an outstanding feature of the 82nd annual meeting of the Minnesota State Medical Association, at the Minneapolis Auditorium, June 24 to 26. Dr. Wm. P. Murphy, of Harvard Medical School, 1934 Nobel Prize winner, will speak on "Liver Therapy in the Treatment of Anemia"; Dr. T. L. Squier, of Milwaukee, Wis., will speak on "Agranulocytosis"; and Dr. W. A. Bloedorn, of the U. S. Public Health Service, will discuss "Iron Therapy."

Montana Conference, C.H.A.

The first annual state conference of the Montana Catholic Hospital Association to be held in eastern Montana will take place May 23 to 24, at Miles City, Mont. According to tentative plans, the conference will be opened with a solemn high Mass at the Sacred Heart Church, celebrated by His Excellency, Most Rev. Edwin V. O'Hara, D.D., bishop of Great Falls. The program will deal with present-day hospital problems, legislation, administration, insurance, local needs, personnel regulations, new systems of hospitalization, and various phases of mutual interest to hospital administrators in Montana.

Annual Catholic Peace Conference

The Catholic Association for International Peace held the ninth annual conference at the Mayflower Hotel, Washington, D. C., April 22 and 23. Most Rev. Michael J. Curley, D.D., archbishop of Baltimore, honorary chairman of the general committee, was in charge of the meetings. On the first day, the 14 committees of the Association met separately with their respective chairmen. A symposium on the League of Nations; its aspects and its relation to Catholic principles was held under the chairmanship of Dr. Charles G. Fenwick, professor of political science of Bryn Mawr College. A feature of the conference was the international dinner, which was attended by members of the hierarchy and diplomatic corps, government officials, and representatives from lay groups, universities, and colleges. At this meeting, the subjects of New Internationalism and World Recovery and Catholic Principles were discussed. Most Rev. John M. McNamara, D.D., auxiliary bishop of Baltimore, presented the subject, "The Church and Peace Action."

The following day, Prof. Parker T. Moon, professor of International Relations, Columbia University, presided at the morning session, when Dr. Elizabeth A. Morrisy, professor of economics, College of Notre Dame, Baltimore, delivered an address on "Tendencies in International Labor Legislation," and Dr. Henry F. Grady, of the Economics Division of the Department of State, discussed "International Economic Adjustments." Following these, two phases of the question of our relation with the Far East were presented by Dr. Elizabeth M. Lynskey, professor of International Relations, Hunter College, and Rev. Dr. Edmund A. Walsh, S.J., regent of the Foreign Service School, Georgetown University. A peace luncheon followed, the general theme of the program dealing with education and peace. Students from various universities and colleges discussed the various aspects of the relation of this subject to the Youth Movement and to its place in the college and high-school curriculum. The question of Mexico was presented at the closing session, the program including addresses on "Colonial Life in Mexico," "Mexico and International Relations," and "Mexico — the Present Crisis and Its Solution." A business meeting and the election of officers for the coming year concluded the conference.

Loyola University School of Nursing Chicago, Illinois

Appointment of Sister Helen Jarrell, R.H., as director of the school of nursing of Loyola University, Chicago, was announced recently by President Samuel Knox Wilson, S.J. This is the final step in the organization of Loyola's affiliated hospitals into a university unit.

Sister Helen Jarrell has been dean and director of St. Bernard's School of Nursing in Chicago since 1914. For the past twelve years she has held executive offices on the Illinois Conference of the Catholic Hospital Association and has held memberships in the leading American and international Catholic hospital and nurses foundations.

A member of the order of Religious Hospitalers of St. Joseph, Sister Helen Jarrell is a graduate nurse of St. Joseph's Hospital, Kingston, Ontario, Canada. She took her undergraduate and graduate degree work at Loyola University.

As director, Sister Helen Jarrell is chairman of the administrative board of the Loyola University School of Nursing. This board, composed of two university representatives and two representatives from each of the nursing school units, will be responsible to the president of the University through a special committee. The board has no immediate jurisdiction over individual hospitals or schools of nursing. Its recommendations will be carried to the University Committee composed of representatives from the graduate school, the medical school, and the college of arts and sciences. A council made up of the director of each hospital unit and representatives of the hospital and teaching staffs will be set up in each unit. It will be the duty of this council to put into operation in each unit the policies outlined by the administrative board.

"Each division of Loyola University will collaborate with the administrative board in advancing nursing education," Father Wilson said in the announcement. "If called upon, the graduate school and the college of arts and sciences will open their curricula to nursing subjects which can be used towards the M.S. and B.S. degree while the medical school can supply the faculty." This plan of organization is similar to those in operation at St. Louis and Creighton universities.

Nursing-School Affiliation

The school of nursing at St. Mary's Hospital, East St. Louis, Ill., has been affiliated with St. Louis University School of Nursing since last fall. The university assumes advisory responsibility for the school in appointing the nursing staff, the administration of the curriculum, and requests for admittance and graduation, the latter taking place at the university. The curriculum will be accredited for a bachelor of science degree. Students attend classes at the university twice a week. Dr. E. F. Moore is medical director.

On April 1, St. Mary's was honored with a visit from His Excellency, Most Rev. John Collins, D.D., bishop of Liberia, Western Equatorial Africa and Papal Charges d'Affaires to the Liberian Government. The following morning, Bishop Collins celebrated a community Mass in the hospital chapel. Bishop Collins has been in Liberia for 23 years, and last year when the mission was raised to a vicariate, he was appointed its first bishop.

Urges Fight on Cancer

During the week of March 10, His Excellency, Most Rev. Rodrigue Cardinal Villeneuve, archbishop of Quebec, Canada, directed all pastors in the archdiocese to call the attention of their parishioners to the foundation for the cause and cure of cancer, which will be started as Canada's gift to King George V on the occasion of his silver jubilee.

Physicians Organize Guild

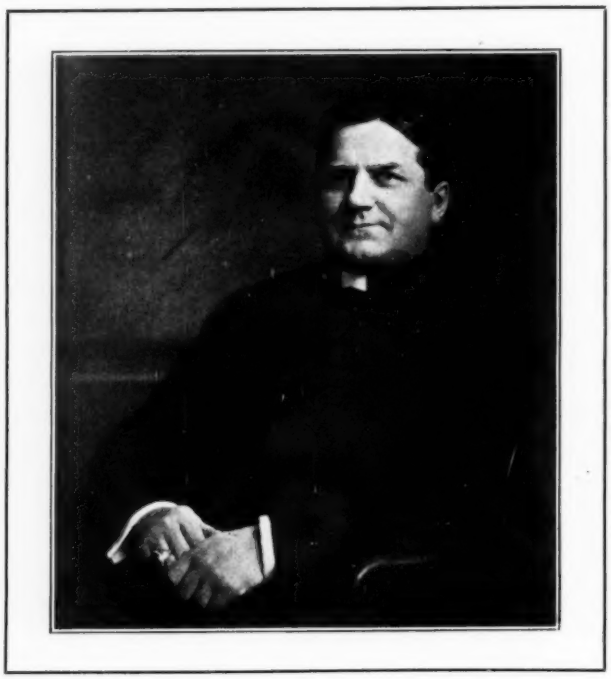
Upon the suggestion made last summer by Rev. James J. Duffy, rector of St. Paul's Shrine of the Blessed Sacrament, Cleveland, a chapter of the Federated Catholic Physicians' Guild was organized at Cleveland, Ohio, with a charter membership of about 100 physicians from the diocese. At the organization meeting, Dr. C. A. O'Connell presided, and His Excellency, Most Rev. Joseph Schrembs, D.D., bishop of Cleveland, delivered an informal address, in which he pointed out the desirability of a guild. The Guild voted to admit to associate membership, non-Catholic physicians who desire to become acquainted with Catholic principles in the practice of medicine and surgery. Dr. C. A. O'Connell was chosen president of the organization.

Course in Psychiatric Nursing

St. Francis Hospital, Pittsburgh, Pa., recently issued a bulletin announcing a postgraduate course in psychiatric nursing for graduates of accredited schools of nursing, furnishing required credentials. Preference will be given to those having a higher preliminary education. The bulletin states that "St. Francis Hospital is well equipped to give this course. For 65 years the institution has cared for the mentally afflicted of Pittsburgh and vicinity. It is a 500-bed general hospital, with a psychiatric division connected. The daily average of patients in this division is 185."

His Excellency, the Most Reverend Joseph F. Rummel

The elevation of His Excellency, the Most Reverend Joseph F. Rummel, Bishop of Omaha, to the Archbishopric of New Orleans recently announced has brought joy to all the members of the Catholic Hospital Association. We hasten to extend to His Excellency our most sincere and cordial congratulations. Even at this early date he has entered most intimately and personally into the affairs of the Catholic Hospital Association. A cordial letter of invitation which His Excellency was pleased to send us inviting us to the City of his Episcopal See and which was published in the February number, of HOSPITAL PROGRESS, bespeaks a fatherly heart full of interest and sympathy for the Sisters of the Catholic Hospital and a breadth of vision which gives evidence of a deep insight into the problems of our institutions. His Excellency understands fully the large place which is occupied by the Catholic Hospital in Catholic activity.



Our joy is not unmixed with disappointment. We had hoped that His Excellency would grace the Twentieth Annual Convention and that our deliberations would take place under his inspiring leadership. Our loss and the great loss of the Diocese of Omaha is the gain for the Archdiocese of New Orleans and for Catholicity in the South. We are sure that His Excellency will carry with him into the South that deep interest in the Catholic Hospital which he has already manifested and that he will bring strength and renewed confidence to the Sisters of those regions where Catholic hospital traditions have been so long established, that where the Catholic Hospital for many decades of this Nation's history grew in vigor and piety as luxuriant and beautiful as the Southland's semitropical flora.

—A. M. S., S.J.

Medical Practice and National Security

The special session of the House of Delegates of the American Medical Association which was held in Chicago on February 15 and 16 was of such great importance that without doubt in the future history of medicine in this country this meeting will delimit an epoch.

A special meeting was called for the discussion of such matters as sickness insurance, medical practice with reference to the national security, and the influence of governmental activity on the practice of medicine.

The minutes of this very important meeting as summarized in *The Journal of the American Medical Association* of March 2, 1935, contain many passages which are of the profoundest importance to hospital administrators, to hospital staffs, and also to other members of the hospital personnel. We have repeatedly stressed the principle that the physician is the central figure in the hospital and that sound medical practice is the one indispensable activity of every hospital. Hospitals are not made by the elegance of their equipment, the magnificence of the architecture or even by the superior excellence of nursing and auxiliary service. All these may be of an extremely high order, but if there is lacking the fullest scientific competence, the ethical viewpoint and whole-souled interest of the staff, the hospital must of necessity fail to achieve that for which it was organized. Contrariwise, there are even today hospitals in which much remains to be desired with reference to nursing service or comfort or modern equipment, but which yet are good institutions because of the excellence of the medical staff and of its service. It is for this reason that our Association has always stood for the principles that in the Hospital there must be the closest possible co-operation between the staff and the administrative officers and that in the solution of every hospital problem the medical viewpoint

concerning a particular question must ever be given the first and most influential consideration.

The meeting reiterated either explicitly or implicitly the principle formulated and adopted at the Cleveland Convention of the Catholic Hospital Association last June. It expressed its ". . . opposition to all forms of compulsory sickness insurance, whether administered by the Federal government, the governments of the individual states, or any individual industry, community, or similar body." It restated the historically true position of medicine and medical practice when it said that "the medical profession has given of its utmost to the American people not only in this but in every previous emergency. It never required compulsion, but has always volunteered its services in anticipation of their need." While it praised the forthcoming social security legislation with reference to unemployment, old age, health insurance, etc., because it contained "some of the fundamental considerations for an adequate, reliable, and safe medical service established by the medical profession through years of experience in medical practice," nevertheless, so the report says, "so many consistencies and incompatibilities are apparent that many more facts and details are necessary for a proper evaluation." The House of Delegates deprecated any provision whereby federal subsidies for medical service are administered and controlled by a lay bureau. It condemns the provision of the Wagner Bill which "creates a social insurance board without specification of the character of its personnel to administer functions essentially medical in character and demanding technical knowledge not available to those without medical training."

The meeting was not deaf to the crying needs of the moment. It recognizes that at the present time a larger percentage than ever of our population is quite unable to purchase that kind and extent of medical service which it needs, but it warns against the creation of any practice which in the last analysis may solve in part a section of a major problem without due consideration of the other sections of the same problem which may be involved.

The American Medical Association must be congratulated upon the stand which it has taken. None of us is wise enough to know the full solution of the overwhelming problems which confront us, but all of us should be wise enough to know that there are certain ways in which these problems cannot be solved. They certainly are not solved by providing medical service to only fractions of the population, by extending the benefits to select groups, by indefinitely multiplying the methods of bringing relief in medical needs to only those who comply with certain group or class requirements. There are many plans which from any one single viewpoint not only make an appeal to the public at large, but many in a limited way prove quite successful in the attainment of certain specified objectives, but thus far no single plan has been devised, and it is doubtful whether it can be devised, which will take into consideration all the many viewpoints which must enter into one's field of vision and study which will achieve as much for the American people as the traditional practice of medicine has thus far achieved. We are not convinced that any one has yet devised a better formula than this that medical care must be based upon the personal relationship of physician and patient, interpreting that relationship in its broadest and most idealistic implications.— *A. M. S., S.J.*

Contraceptive Practice and the Hospital

At the end of our Villanova Convention our Association's Resolutions on the Code of Ethics contains the following statement:

> In this connection the Association asserts anew its unqualified opposition to all practices popularly included in the term "birth control" and condemns the utilization of the Hospital and the Out-Patient Department as centers of diffusion of knowledge concerning such practices.

Shortly after the adoption of this Resolution several statements reached the central office of the Association expressive of surprise that hospitals should be used as "centers of diffusion of knowledge" concerning contraception.

A study recently undertaken by Jacob J. Blair and published in a semipopular publication throws some interesting light upon this question. The authority of the publication and of the investigator may be open to some doubt, since the investigation was undertaken more or less directly as a market survey to establish the sales field of a commercial preparation.

A questionnaire was sent to four thousand physicians whose names were on the advertising list of a particular commercial institution. As a check list the names of two thousand physicians chosen at random from the Directory of the American Medical Association was used. Of the first group, approximately one fourth, and of the second group approximately one sixth answered the inquiry. The study shows that of the physicians who prescribe contraceptives, 67 per cent in the control group and 68 per cent in the supply-house group have hospital appointments.

The article goes on to show that while the practice of contraceptive advice is limited to a large extent to material health in both control clinics and those who request advice from a personal physician, the obstetrical departments of our hospitals are also used as diffusive centers. Of 243 physicians, 56, or 23 per cent, give contraceptive advice to from 1 to 49 per cent of their clinic patients, while as many as 19 per cent advised from one half to all of their maternity clinic cases in their hospitals. For private practice as many

as 49 per cent of the physicians advised fewer than one half of their private obstetrical patients, while 36 per cent advised more than one half of their private obstetrical patients in contraceptive practice. The author bewails the fact that ". . . many of our hospitals are forced to take a conservative point of view towards contraception," and apparently regrets that ". . . the question of cost of providing materials . . . may act as a serious deterrent to the provision of contraceptive advice as a routine part of post-partum care to the clinic patients in our hospitals."

The situation need only be called to the attention of our hospitals to make them aware of the implications. The stand which our Association took at the Villanova Convention must remain unchanged, no matter how many other issues may arise which tend to confuse the soundness of the principles or the ethical character of practice for which our Association stands. — *A. M. S., S.J.*

NEW BOOKS

BOOKS REVIEWED

An Activity Analysis of Nursing

Prepared under the auspices of the Committee on the Grading of Nursing Schools. New York City, 1934.

An Activity Analysis of Nursing is an account of the outcome of one of the projects of the Five-Year Program adopted in 1926 by the Committee on the Grading of Nursing Schools. The book comprises 214 pages. The first 121 treat of the following topics; what constitutes good nursing; the functional approach in building a curriculum, as a means of effecting closer correlation of theory and practice throughout the nursing course, and to promote flexibility of teaching methods and vitalization of content; an outline of different methods that may be employed in the classification of activities for teaching and curriculum purposes; the technique used to discover the conditions needing nursing care, and a tabulation of these conditions; the various aspects of nursing; and an illustration of how this study may be carried further into a curriculum project.

The remaining pages of the book contain appendices which are composed of tabulations of the conditions and various nursing-activities lists — indicating those which occur most frequently, and sources whence the material for compilation was obtained.

The whole is a valuable piece of research work, the first of its kind to appear in the field of nursing. The lists report "what nurses do," the group of them comprise "the complex picture of what nursing is." The need for curriculum revision or reconstruction is made quite clear by the presentation of facts. Although the study is not a completely satisfactory sample of the entire field of conditions, it furnishes a great deal of fundamental material upon which curriculum construction — or some courses in it — may be based, and it offers some suggestions of practical application which should greatly improve courses in nursing education. — *S. M. A.*

BOOKS RECEIVED

Biography

Memoirs of General Harry Clay Trexler, by Leo Gregory Fink. Member Lehigh County Historical Society Pennsylvania. 199 pp. The Paulist Press, New York, 1935.

Mother Marianne of Molokai, by L. V. Jacks. 203 pp. The Macmillan Company, New York, 1935. $2.

Drugs

Useful Drugs. A list of drugs selected to supply the demand for a less extensive Materia Medica with a brief discussion of their actions, uses, and dosage. Prepared under the direction and supervision of the Council on Pharmacy and Chemistry of the American Medical Association. Edited by Robert A. Hatcher, Ph.M., Sc.D., M.D., and Cary Eggleston, M.D. Ninth Edition. 203 pp. American Medical Association, 535 North Dearborn Street, Chicago, 1934.

Tuberculosis

Forms for the Use of Tuberculosis Sanatoria. By The American Sanatorium Association, through a special committee. The Committee has also had the assistance of the Statistical Department of The National Tuberculosis Association. The graphic chest charts were worked out from stereoscopic X-ray films taken at The Potts Memorial Hospital. The National Tuberculosis Association and The American Association have arranged with The Livingston Press to publish these charts. The Livingston Press, Livingston Columbia County, New York.

Medicolegal Cases

Medicolegal Cases. Abstracts of Court Decisions of Medicolegal Interest, 1926–1930. Edited by Wm. C. Woodward, M.D., LL.M., Director Bureau of Legal Medicine and Legislation, American Medical Association. 1336 pp. American Medical Association, 535 North Dearborn Street, Chicago, Illinois.

The Medicolegal Necropsy. A Symposium held at the Twelfth Annual Convention of the American Society of Clinical Pathologists at Milwaukee, Wisconsin, June 9, 1933. Edited for the Society by Thomas B. Magath. 167 pp. The Williams & Wilkins Company, Baltimore, 1934.

OUR AUTHORS

The Ideals of Medical Practice
His Excellency, the Most Reverend Amleto Giovanni Cicognani, Apostolic Delegate to the United States, Washington, D. C.

The Nursing Hazards of Intravenous Medication
Sister Mary Maura Marron, R.N., B.S., Graduate Student, St. Louis University, St. Louis, Mo.

Equipment for Hospital Air Conditioning
Horace A. Frommelt, M.A., E.E., Professor and Head of the Department of Mechanical Engineering, Marquette University, Milwaukee, Wis.

A Century of Progress
Sister Loretto Bernard, R.N., Member of the Nursing Staff, St. Vincent's Hospital, New York City.

Nursing Time Requirements of a Surgical Patient
Lucille G. Fagan, R.N., B.S., Graduate Student, St. Louis University School of Nursing, St. Louis, Mo.

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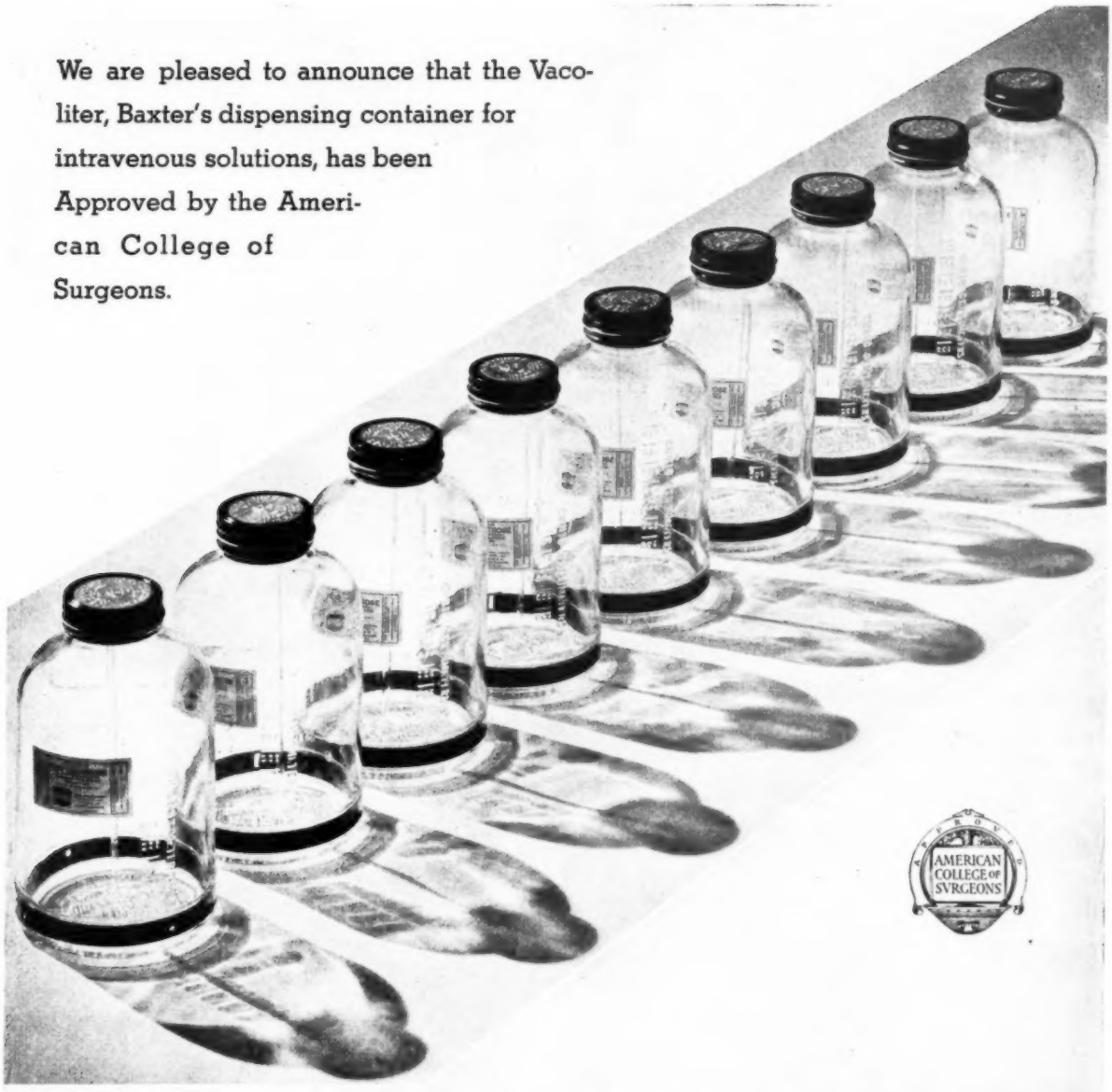

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HOSPITAL ACTIVITIES

Nursing League Meets

On March 20, a large delegation from Indiana attended the luncheon and program given by the Indiana State League of Nursing Education at St. Anthony's Hospital, Terre Haute, Ind. Miss Cordelia Hoeflin, of Indiana University Hospital, Indianapolis, president of the League, presided, and Sister M. Florina, directress of nurses at St. Anthony's, acted as chairman of the program. Speakers from the faculty and associates of St. Anthony's and Union Hospitals, Terre Haute, discussed the work being done to correlate practice and teaching of student nurses in these two hospitals.

The following subjects were discussed: "Follow-Up Work and the Distribution of Clinical Material," Miss Mary L. Frisz, educational director, St. Anthony's Hospital; "Teaching from Personal Hygiene Class Incorporated in Ward Practice," Miss Dorothea Glascoe, educational director, Union Hospital; "Morning Conference Methods," Miss Abigail Griffith, medical supervisor, Union Hospital; "Correlation of Teaching in the Obstetrical Department," Miss Margaret Hill, supervisor, obstetrical department, Union Hospital; "Time-Study of the Pediatric Department," Miss Geneva Mong Michael, pediatric supervisor, St. Anthony's Hospital; "The Scientific Organization and Use of the Hospital Library," Mrs. Gladys Wilmot Graham; "Extracurricular Activities for Student Nurses," Miss Margaret Ann Fitzpatrick, instructor, St. Anthony's Hospital. Sister M. Cyriaca, night supervisor at St. Anthony's Hospital, held a conference with five freshmen student nurses, when the subject of the "Clinical Congress — the Prevention and Care of Decubitus," was discussed.

Report of Indian Hospital

During 1934, the Holy Family Hospital, Rawalpindi, Punjab, India, had an increase of approximately 40 per cent over the previous year for registration of both in-patients and out-patients. The patients include native Indians, low, middle, and high class; Anglo-Indians, and Europeans and Americans employed in the Civil Service, the army, and the oil fields. Only about 2 per cent of these patients are full-pay patients.

The school of nursing, which has an enrollment of 12 native girls, is progressing. Educational requirements for entrance have been raised to eight years of schooling.

St. Francis Dispensary, located a few miles from the Holy Family Hospital, in a district where the people are very poor, has progressed considerably. A nurse and doctor also visited a village of the Himalaya Mountains where they treated the sick natives. The Mitford Government Hospital at Dacca, in the Bengal territory, where two Sisters are in charge of the nurses and nursing care, is always crowded, and patients are obliged to lie on mats on the floor. The Sisters working at the child-welfare and maternity centers report that the number of patients is increasing, as the people are gradually abandoning native practices. Two Sisters visited nearly 2,000 cases, and gained admission into at least 3,000 homes.

Nurses Receive Diplomas

Eight nurses from St. Vincent's Hospital School of Nursing, Sioux City, Iowa, received their diplomas at graduation exercises held March 25, in the chapel. A solemn high Mass was celebrated by Rev. John A. Elbert, S.M., president of Trinity College, who also conferred the diplomas. A program of vocal and instrumental music was rendered by students of the school. A breakfast for the graduates and their relatives and friends concluded the exercises.

In honor of the graduating class, the Student Body Club held an entertainment in the school auditorium. The directress of nursing education delivered a brief talk on "The Duties of a Nurse," which was followed by a pageant of vocations and a musical program, presented by students of the school.

JUNIOR-SENIOR BANQUET, SCHOOL OF NURSING, ST. VINCENT'S HOSPITAL, SIOUX CITY, IOWA

Medical Academy Meets

The Academy of Physical Medicine will hold its annual meeting June 12 and 13, at the Claridge Hotel, Atlantic City, N. J. Details may be had from Arthur H. Ring, M.D., Secretary-Treasurer, Arlington, Mass.

(Continued on Page 14A)

THE TWENTIETH ANNUAL CONVENTION

of the

CATHOLIC HOSPITAL ASSOCIATION

will be held at

Creighton University, Omaha, Nebraska

June 17-21, 1935

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JUST PUBLISHED

Mother Marianne of Molokai

By L. V. Jacks

THIS BOOK tells the life story of Mother Marianne, who as head of the Franciscan Mission in Hawaii, did such remarkable work among the lepers. The first chapter gives a brief account of her early life, and the remaining chapters are devoted to her work in Hawaii. Many accounts of social, political, religious and medical activities in Hawaii, and of the study and treatment of leprosy and kindred matters have also been included.

Price, $2.00

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HOSPITAL ACTIVITIES

(Continued from Page 12A)

Staff Meeting

The staff of Mercy Hospital, Wilkes-Barre, Pa., held a postgraduate conference and luncheon March 28. The program consisted of clinical demonstrations and medical essays. This was the second conference of this type, to be held by the staff.

A Progressive Institution

The Halstead Hospital, Halstead, Kans., which was taken over by the Sisters of St. Joseph in 1933, has at present a capacity of 175 beds. A new deep-therapy X-ray machine has been added to the equipment, which has proved very effective in the treatment of cancer. Considerable refurnishing and redecorating work also has been done at the institution.

An Interesting Lecture

On March 5, the Sisters, sodalists, and friends of St. Joseph's Hospital, Kansas City, Mo., enjoyed an interesting lecture on India, delivered by Mr. Richard T. Mehren, S.J., of St. Mary's College, St. Mary's, Kans., who has spent six years at the Patna Mission as an active relief worker. This was the second lecture by Mr. Mehren, and was devoted mainly to a description and illustrated slides of the earthquake, which took place in India about a year ago.

An Instructive Meeting

A sectional meeting of the American College of Surgeons was conducted March 13 in the auditorium of St. Joseph's Hospital, Kansas City, Mo. The program consisted of addresses and discussions on the departments of roentgenology, laboratory, interns, emergency, and autopsies. The discussions were under the direction of Mr. Robert Jolly, president of the American Hospital Association. A tour of the various departments of the hospital concluded the session.

Some Interesting Activities

On March 30, Very Rev. Raymond A. Kearney visited St. Mary's Hospital, Brooklyn, N. Y., where he extended his blessings to the personnel, and visited and blessed patients who were unable to leave their beds.

During Lent, the nurses' Sodality has been conducting a sewing class, for the purpose of making clothes for poor children at the Nassau Mission.

On St. Patrick's Day, the social-service department and its auxiliary of Seton Dispensarians entertained 50 children at the institution. Games were played on the hospital lawn, followed by a lunch in the clinic. The pediatric department and the student nurses also presented special St. Patrick's Day celebrations.

On March 24, 150 representatives of the committees of the associate groups of hospital friends and auxiliaries held a party for doctors of the staff. Dr. William T. Shields presided at the program, which included several musical presentations. A luncheon concluded the party.

Nursing Course Completed

The annual six weeks' course in nursing education, conducted by Miss Phoebe M. Kandel, R.N., M.A., at the College of St. Teresa, Winona, Minn., closed recently. This course, which included ward management and teaching, nursing-school organization and administration, and nursing supervision in hospitals and schools of nursing, was attended by 30 registered nurses from more than 14 states. A feature of the course this year was a visit of inspection to the Mayo Clinic and St. Mary's Hospital at Rochester, Minn., and to the University of Minnesota School of Nursing at Minneapolis. While at Minneapolis during the winter, Dean Ann Goodrich visited at Winona for a day, where she expressed her approval of the plan of nursing education carried on at the college.

A GROUP OF STUDENTS IN THE NURSING EDUCATION COURSES AT THE COLLEGE OF ST. TERESA, WINONA, MINNESOTA, WITH MISS PHOEBE M. KANDEL, INSTRUCTOR

Nurses Receive Caps

On March 7, the Feast of St. Thomas Aquinas, 25 preliminary students of St. Catherine's Hospital, Brooklyn, N. Y., received their caps and uniforms. The program opened in the

(Continued on Page 16A)

THE TWENTIETH ANNUAL CONVENTION

of the

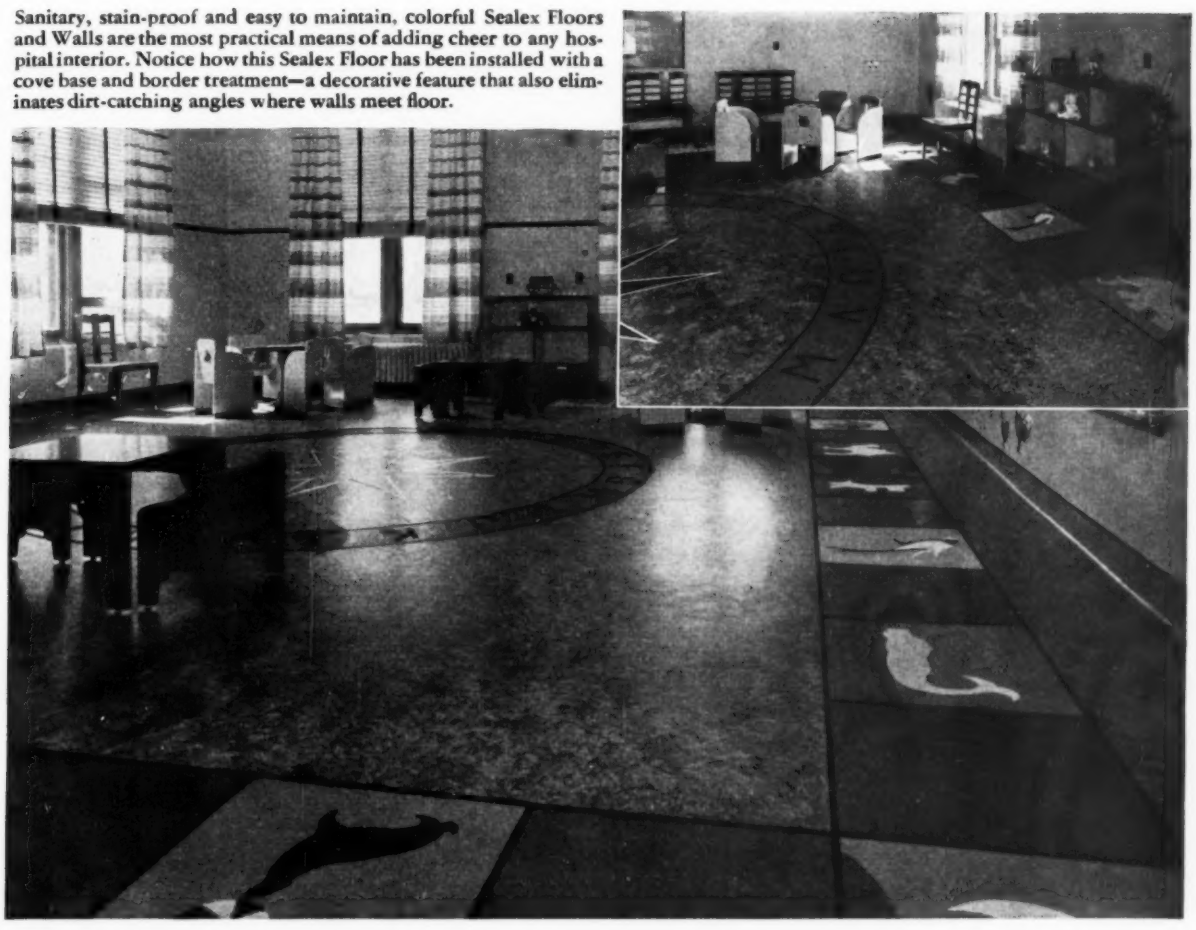
CATHOLIC HOSPITAL ASSOCIATION

will be held at

Creighton University, Omaha, Nebraska

June 17-21, 1935

Sanitary, stain-proof and easy to maintain, colorful Sealex Floors and Walls are the most practical means of adding cheer to any hospital interior. Notice how this Sealex Floor has been installed with a cove base and border treatment—a decorative feature that also eliminates dirt-catching angles where walls meet floor.



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This playroom at St. Mary's Hospital, Detroit, Michigan, illustrates the cheerful decorative effects that may be obtained at moderate cost by combining a colorful designed-to-order Sealex Linoleum Floor with the new linoleum-type Sealex Wall-Covering.

Sealex materials are as successfully installed in hospital remodeling projects as in new construction. Appropriate floor designs for any hospital interior can be cut-to-order at lower cost in Sealex Linoleum than in any other type of floor. And no less an authoritative source than the Modern Hospital Year Book lists linoleum as the *most practical* hospital floor. Comparing virtually every modern floor, the Year Book clearly shows the superiority of linoleum from the standpoint of economy, durability and quietness underfoot—the three primary considerations in selecting a hospital floor. (Reprint of Year Book's listing sent on request.)

When installed by authorized contractors of Bonded Floors or Bonded Walls, Sealex Linoleum and Wall-Covering are backed by Guaranty Bonds covering the full value of workmanship and materials. Write for full information.

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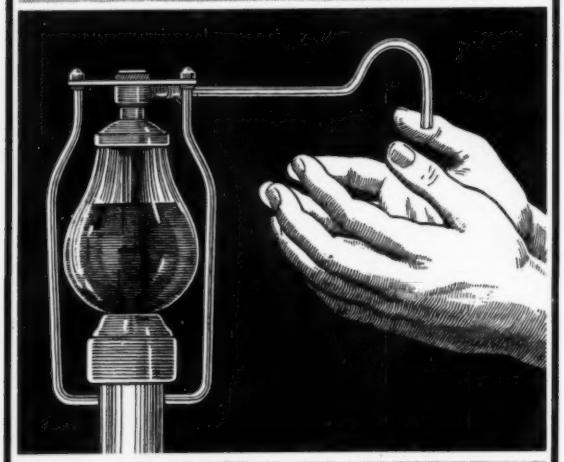

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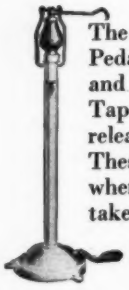

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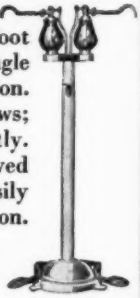

HOSPITAL DEPARTMENT

The HUNTINGTON LABORATORIES Inc.

HUNTINGTON INDIANA

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(Continued from Page 14A)

chapel, at the nurses' home, with Benediction, followed by a moving picture on the life of Florence Nightingale, which was explained by Miss E. Hugelin, instructress at the school. Singing, recitations, and a one-act play, entitled "A Morning in Ward St. Ann," were included in the program. The recitation of the Florence Nightingale Pledge and the capping ceremony concluded the program.

AMERICAN SOCIETY OF CLINICAL LABORATORY TECHNICIANS THIRD ANNUAL CONVENTION

June 10 to 12, 1935

Headquarters: Haddon Hotel, Atlantic City, New Jersey

Exhibits will be open from 12:00 to 2:00 p.m., and 4:00 to 9:00 p.m.

Registration: June 10, 8:00 a.m. to 12:00 m.

Monday Morning Session, 9:00 to 12:00

Executive Session

Invocation

Rev. Warren W. Way, D.D. — St. John's Episcopal Church, Atlantic City, N. J.

Minutes of 1934 Meeting

Appointment of Committees — Nomination and Resolutions

Announcements — Requirements for competition for awards; proposed trip to laboratories of Philadelphia, after convention, arranged by Miss Frieda Ward, L.T.; entertainments available for technicians; exhibits open to technicians.

President's Address

Sarah McCarty, M.T., Birmingham, Ala.; 805 Medical Arts Bldg.

Reports

Executive Committee — Membership Publication

John Conlin, M.T., Vice-President, Detroit, Mich.; 10439 Outer Drive, E.

Advisory Board

Madge Baldwin, L.T., Chicago, Ill.; 45 W. 111th St.

Counsellors

Harry A. Macko, L.T., Cleveland, Ohio; St. Vincent's Charity Hospital

Insignia

Naomi C. Zittrouer, L.T., Atlanta, Ga.; 719 Doctors Bldg.

Treasurer

Christine C. Seguin, L.T., Niles Center, Ill.; 8056 Lincoln Ave.

Adoption of Reports

New Business: Proposed amendments to Constitution, etc.

Monday Afternoon Session, 2:00 to 5:00

General Problems of Technicians

Sister M. Joan of Arc, R.S.M., M.T., Baltimore, Md.; Mercy Hospital, presiding.

Problems of Laboratory Work and Administration as They Affect the Technicians

Philip Hillkowitz, M.D., Denver, Colo.; 234 Metropolitan Bldg.

Technician's Status and Place in the Hospital

Asher Yaguda, M.D., Newark, N. J.; Beth Israel Hospital

Summary of the Returns from the Questionnaire

Sister M. Joan of Arc, R.S.M., M.T.

Keeping Abreast of the Times

Sister Alma Le Duc, C.S.A., Ph.G., L.T., Akron, Ohio; St. Thomas Hospital

Problems of Technician in Small Laboratory

Myra Effinger, B.S., M.T., Altoona, Pa.; Altoona Hospital

Tuesday Morning Session, 9:00 to 12:00

Hematology

Miss Frieda Ward, L.T., Newark, N. J.; St. Barnabas Hospital, presiding

Hemoglobin Estimations

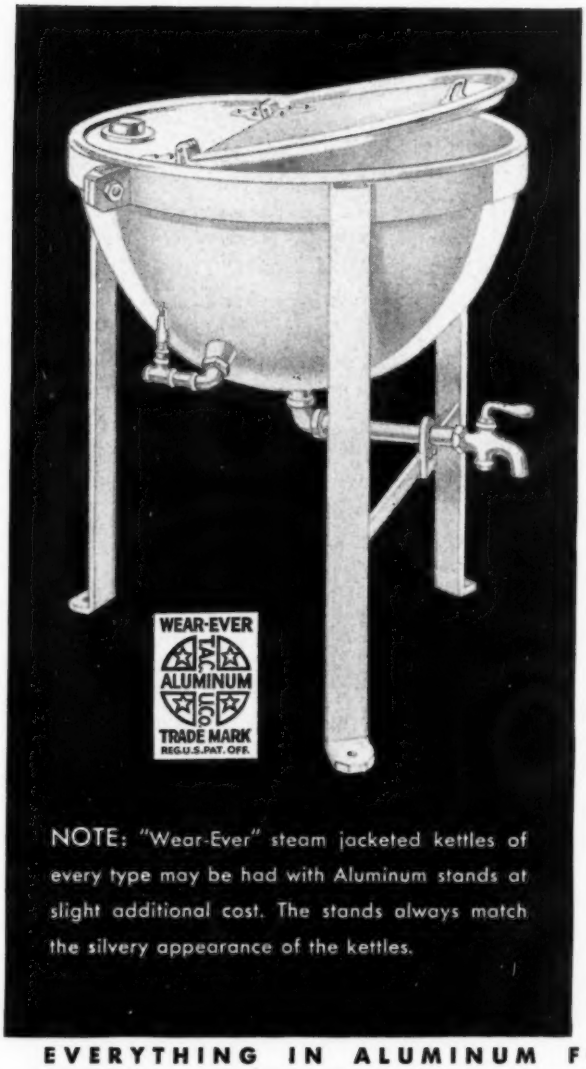
Russell Haden, M.D., Cleveland, Ohio; Cleveland Clinic

Laboratory Diagnosis of Leukemic States

Roy R. Kracke, M.D., Atlanta, Ga.; Emory University

(Continued on Page 18A)

WHY DO HOSPITAL KITCHENS EVERYWHERE NOW USE ALUMINUM?



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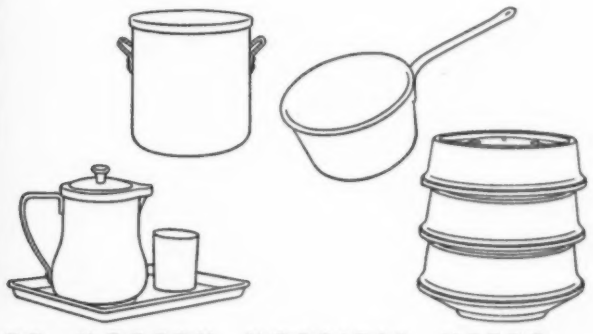

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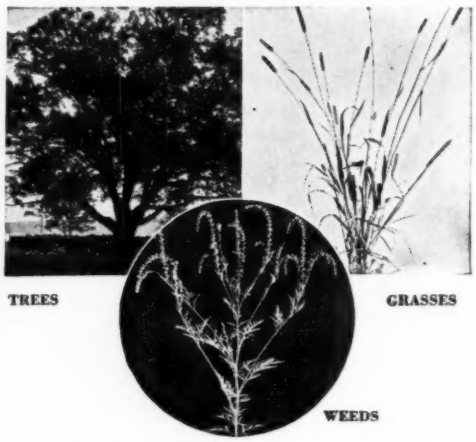
Write for a copy of the free booklet, "Hay Fever Therapy," which discusses its diagnosis and treatment. Our Medical Department will gladly assist you in any problem in pollen allergy.



MULFORD BIOLOGICAL LABORATORIES

Sharp & Dohme

PHILADELPHIA BALTIMORE

(Continued from Page 16A)

Aplastic Anemia, With Recovery and Follow-Up of Two and One-Half Years
Bessie B. Morris, L.T., Staten Island, N. Y.; St. Vincent's Hospital

Clotting Indices: Theory and Technic
Lena A. Lewis, A.B., L.T., Lancaster, Pa.; Lancaster General Hospital

Laboratory Procedures Involved in Transfusions
Henrietta M. Lyle, L.T., Lancaster, Pa.; St. Joseph's Hospital

Cytology of Spinal Fluids
Phyllis Stanley, M.A., M.T., Newark, N. J.; Presbyterian Hospital

Round-Table Discussions
Opened by *Cecil Gowen, M.T.*, Newark, N. J.; 142 Clinton Ave.

Tuesday Afternoon Session, 2:00 to 5:00
Chemistry and Miscellaneous

Luella Gifford, M.T., Norfolk, Va.; 339 Bousch St., presiding

Urea Clearance and Urea Determinations
Donald Van Slyke, Ph.D., Sc.D., New York City; Rockefeller Institute

Value of Blood Chemistry in Clinical Medicine
Walter B. Martin, M.D., Norfolk, Va.; 339 Bousch St.

Spinal Fluid Findings in Poliomyelitis
Maurice Brodie, M.D., New York City; New York University and Bellevue Medical College

Blood Phosphatase
Paul C. Brown, B.S., M.T., Newark, N. J.; Beth Israel Hospital

Pathological Technic
Martha Moore, L.T., Jacksonville, Fla.; Wade Medical Arts Bldg.

Round-Table Discussions
Opened by *Frances Pennypacker, M.T.*, Wilmington, Del.; Homeopathic Hospital.

Wednesday Morning Session, 9:00 to 12:00
Bacteriology

Sister Alma Le Duc, C.S.A., Akron, presiding

Allergic Technic in the Laboratory
Warren T. Vaughan, M.D., Richmond, Va.; 808 Professional Bldg.

Examination of Clinical Material for Tubercle Bacilli
Frieda Ward, L.T.

Laboratory Studies in Chronic Arthritis
Cecil Gowen, M.T.

Pathogenic Fungi: Studies from Two Fatal Cases
Fanny Bell Warnock, M.T., Champaign, Ill.; Burnham City Hospital

Laboratory Studies in Dysentery Epidemic Due to a Typical Flexner Organism
Margaret Kirby, L.T., Jersey City, N. J.; Medical Center

Round-Table Discussions
Opened by *Vivian Herrick, L.T.*, Birmingham, Ala.; Hillman Hospital

Wednesday Afternoon Session, 2:00 to 5:00
Serology and Business

Demonstration on Serology at Atlantic City Hospital
Robert A. Kilduffe, A.B., A.M., M.D., Atlantic City

Business Meeting at Headquarters
Reports of Nominating Committee, Resolutions Committee, and the election of officers

The program committee is composed of Sister M. Joan of Arc, general chairman; Sarah McCarty, M.T., chairman on exhibits; and Phyllis Stanley, M.T., chairman on entertainments.

Meetings of State Organizations

A joint meeting of the Iowa League of Nursing Education, the State Dietetics Association, and the State Record Librarians Association was held in conjunction with the sixth annual convention of the Iowa Hospital Association, at Iowa City, Iowa, April 29. The program included a number of Sisters and officials of the various Catholic hospitals of the state.

Rev. M. J. Diamond, chaplain at Mercy Hospital, deliv-

ered the invocation for the general session, which opened April 30. Sister M. Ursula, of St. Joseph's Mercy Hospital, Dubuque, assisted in the discussion of "Comparable Functions of Hotel and Hospital Operation," and Sister M. Irene, of Mercy Hospital, Davenport, discussed "The Future of Denominational Hospitals." Sister M. Immaculata, St. Joseph's Mercy Hospital, Dubuque, discussed the subject, "Hospital Library Service," and Sister M. Florence, of Mercy Hospital, Davenport, assisted in the discussion of "Methods of Keeping Surgical Dressing Forceps Sterile." As a part of the program of the State League of Nursing Education, Sister M. Syra, of St. Anthony's Hospital, Carroll, Iowa, who is included on the program of the State Record Librarians Association, presented a paper on "Case Record Problems in a Small Hospital."

Dr. MacMurchy's Book

The Secretary of the Council of Nursing Education for Canada has submitted the following critique of Dr. MacMurchy's book, *Sterilization — Birth Control,* written by Father Enright, C.Ss.R.:

The author of this work shows a decided bias in the very first page of the introduction and, at the same time, manifests her method; namely, that the themes she treats are assumed to be true, and that their opponents have the impossible task of proving them false. An excellent example of the vicious circle.

Her propositions are taken in an unnatural order; hence she presents the negative side first and then the affirmative: "Resolved that sterilization is a social boon." "Resolved that birth control is a social boon." Therefore opponents of these propositions are placed in the difficult position of denying them before they are stated. In other words, the case for sterilization and birth control does not meet the arguments of its opponents.

The fabric of the work is built upon the exceedingly debatable theory of heredity.

"There is really no great scientist in biology at the present moment," says a well-known medical man, "who teaches the hereditary transmission of acquired characteristics. . . . That some acquired pathological condition, however, as stomach trouble, or heart trouble, or affection of the liver, or the brain, should be directly transmitted, is quite as nonsensical as that the loss of an arm should be a subject for hereditary transmission." — James J. Walsh, M.D., Ph.D., LL.D., pages 122–123, *Essays in Pastoral Medicine,* by O'Malley, Walsh (Longmans, Green, 1925).

It is admitted in Chapter III that the number of defectives amenable to a sterilization law amounts only to three out of a thousand and that the improvement of the race by their elimination would be negligible.

The British Departmental Committee almost unanimously agree that there should be sterilization but could not concur as to the results of such a law! It is assumed throughout the book that favorable legislation must come. The author has pre-judged the case in favor of sterilization and birth control, though she makes an appearance of neutrality.

The reports of the result of operation in the only country (U. S.) where statistics are available are few. Yet the author insists on these as a boon in Chapter VI. One everywhere perceives that the author's bias leads her to regard any evidence in favor of it to be magnified to a mountain by her prejudice.

The number of persons eligible for the operations she pleads would not be large. Then why the agitation about them!

The moral tone of the classroom is low, she concluded, and in the same breath admits that its originators cannot be said to be all defectives; yet her remedy for the low tone of

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HOSPITAL ACTIVITIES

morals in the classroom is not a cure for the whole cause but the elimination of a possible cause and that too only a partial one.

New X-Ray Department Opened

On March 12, the Sisters of Mercy opened the new deep X-ray therapy department at the Leila Y. Post Montgomery Hospital, Battle Creek, Mich. A noon luncheon was held for the staff, at which time Dr. Max Cutler, of Chicago, was the guest speaker. Dr. Cutler discussed the important part played by the deep X-ray therapy and radium therapy in the handling of malignant diseases.

The new machine is the latest type of shockproof, 250-kilovolt capacity, of the desk-type variety, arranged in such a manner that the operator can sit comfortably at the desk with the numerous controls within easy reach, and at the same time watch the patient through a lead glass window. In addition, the machine is equipped with a two-way speaking device that permits the patient and operator to converse during treatment.

Hospital Enlarged

St. Joseph's Hospital, Lowell, Mass., is constructing an additional story to one of the sections of the institution, which will provide seven additional private rooms. The children's ward is also being enlarged, by the addition of a sunporch. During the past year, 3,144 patients were admitted to the hospital, and 20,096 patients were treated in the outpatient department.

On May 22, graduation exercises will be held for nine students of the school of nursing.

A Program of Activities

Mary's Help Hospital, San Francisco, Calif., is the only hospital in California on the approved list of the American College of Surgeons which conducts cancer diagnostic clinics.

The hospital will present two exhibits at the Community Chest Exhibit, which opens in May. A pantomime of St. Louise de Marillac teaching student nurses and a scene showing the deathbed of a patient, illustrating scenes in 1633 and 1933, will be shown.

The monthly meeting of the Louise de Marillac Guild was held March 28. Plans were made for a breakfast, to be held May 24, in honor of the first anniversary of the organization. Election of officers also will take place at this time.

The annual retreat of the Daughters of Charity was held, during March, at the Marillac Seminary in Missouri.

Eight-Hour Nursing Service

At no additional expense to the patient, and in order to divide work among more of their profession, private-duty nurses of St. Vincent's Hospital Alumnae, Philadelphia, Pa., have adopted an eight-hour day schedule. A fee of $4 for all types of hospital patients and $5 for twelve-hour service in homes has been decided upon by the nurses.

Golden Jubilee of Order

The Sisters of the Holy Family of Nazareth are this year celebrating the 50th anniversary of their coming to America and to Chicago. In commemoration of the event, the Sisters who conduct St. Mary of Nazareth Hospital, Chicago, are conducting a benefit concert on Easter Sunday.

New Addition Opened

On March 11, the new addition of the maternity ward at St. John's Hospital, Bellevue, Pa., was opened.

Retreat and Capping Exercises

A three-day retreat for members of the freshman class of St. Mary's Hospital, Quincy, Ill., closed recently, the students receiving their caps at this time. Rev. Father Ignatius delivered a brief address of welcome, which was followed by a program of vocal solos and the reading of Longfellow's "Lady of the Lamp." Rev. Leander Conley, O.F.M., who conducted the retreat, also delivered a brief address.

Graduation Exercises

On March 19, a class of 14 students was graduated from St. Catherine's Hospital School of Nursing, Brooklyn, N. Y. The exercises were held in the chapel, and diplomas were presented to the graduates by Rt. Rev. Timothy A. Hickey. Rev. Andrew I. Dawson, of St. John's University, professor of bacteriology in the school of nursing, delivered the address to the graduates, while the Hypocratic oath was administered by Dr. Martin A. Murphy, of the medical staff of the hospital. This year is the 25th anniversary of the founding of the nursing school.

Sisters Leave Mexico

The Sisters Servants of Mary, Nurses of the Sick, are being withdrawn from Mexico in compliance with instructions of the mother general of the order in Rome. The Sisters are being distributed throughout the United States.

Nurses' Annual Retreat

The annual retreat for student and graduate nurses of Mercy Hospital, Johnstown, Pa., was conducted in March.

New Hospital Planned

The city of Morrillton, Ark., is planning the erection of a new hospital, which will be leased to the Benedictine Sisters, who also conduct St. Anthony's Hospital, in the same city. The building will be constructed at a cost of $40,000, the

(Continued on Page 22A)

THE TWENTIETH ANNUAL CONVENTION

of the

CATHOLIC HOSPITAL ASSOCIATION

will be held at

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June 17-21, 1935

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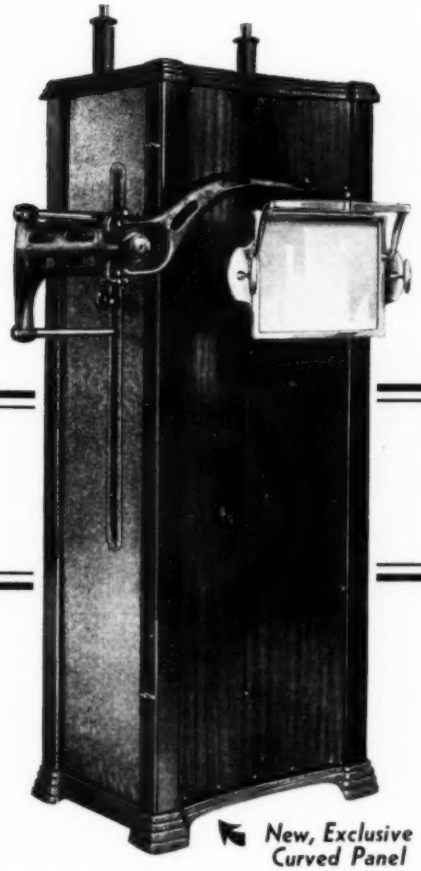

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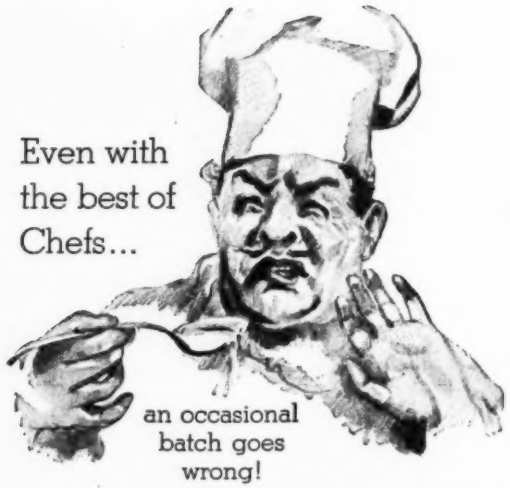

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Physicians and Hospitals Supply Co., Inc., Minneapolis, Minn.

(Continued from Page 20A)

funds of which have been secured through a loan granted by PWA authorities at Washington, D. C.

Program of Improvements

St. Elizabeth Hospital, Yakima, Wash., during the past year, added a staff library and a cast room to the institution. The laboratory department has a new colorimeter and a basal metabolism machine. Various improvements also have been made in the X-ray department and all new equipment has been installed. A urological room is another new improvement added during the past year.

Commencement Exercises

On May 8, commencement exercises will be held in the chapel of the convent of the Sisters of Charity of the Incarnate Word for the 1935 class of St. Mary's Hospital School of Nursing, Galveston, Tex. Most Rev. C. E. Byrne, D.D., bishop of Galveston, will confer the diplomas upon the graduates.

Annual Business Meeting

On April 22, the annual business meeting of the Hospital for Joint Diseases, New York City, was held in the hospital auditorium. The president and treasurer of the institution presented the annual reports for the year. Dr. S. S. Goldwater, commissioner of hospitals of the city, delivered an address, entitled "The City's Hospitals in Theory and Practice."

Death of Chicago Surgeon

Funeral services were held April 13 for Dr. James J. Monahan, surgeon of Chicago, Ill., who died following a heart attack, as he was about to begin an operation at St. Elizabeth's Hospital. Dr. Monahan had been chief of the staff at St. Elizabeth's, professor of surgery at Loyola University, and professor of anatomy at De Paul University.

Course in Etiquette

During March, a three-day course in "Social Usage" was conducted by Mrs. Theodosia Crosse, well-known authority on the subject, for student and graduate nurses of St. Joseph's Hospital, Providence, R. I. The lectures were sponsored by St. Joseph's Hospital Alumnae.

Retreat for Graduates

On April 14, the annual three-day retreat for graduate nurses of Providence Hospital, Seattle, Wash., was opened in the hospital chapel. Rev. J. F. Connolly, S.J., was the retreat master.

C.H.A. Head to Visit Europe

On April 24, Rev. Alphonse M. Schwitalla, S.J., dean of the St. Louis University Medical School, St. Louis, Mo., and president of the Catholic Hospital Association, will sail for Europe to attend the International Hospital and International Catholic conferences there. During his visit abroad, Father Schwitalla will visit and inspect various continental hospitals. Father Schwitalla will present to His Holiness Pius XI, specially bound volumes of the 1935 directories of hospitals and nursing schools reprinted from HOSPITAL PROGRESS.

Hospital Plans Addition

Work will be started soon on a new addition to St. Mary's Hospital, Rhinelander, Wis. The new building will be three stories high and will be used entirely for hospitalization purposes, while the addition built in 1922 will be used for the Sisters of the Sorrowful Mother, who are in charge of the institution. In addition to the new structure, the roof of the old building will be raised, interior partitions on the second floor will be removed, and considerable remodeling work will be done in the old section. The chapel also will

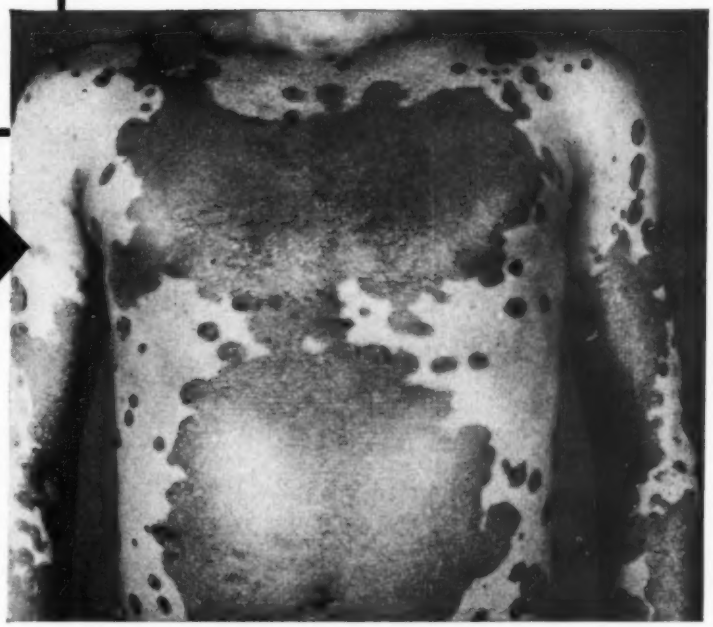
(Continued on Page 24A)

Which Tells the Clearer Story . . .

Extensive Psoriasis

words . . .

or pictures?



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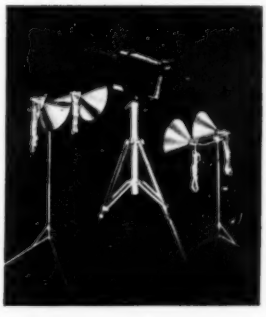

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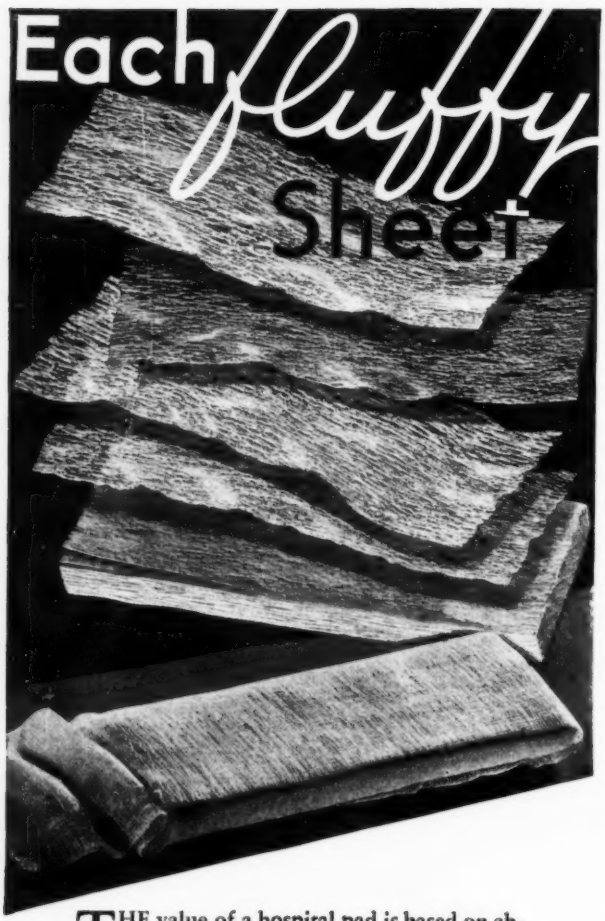

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HOSPITAL PADS

(Continued from Page 22A)

be enlarged. The new section will include an operating room, ambulance entrance, fire escape, and a number of rooms for patients. The cost of the new structure is estimated at approximately $75,000.

Charity Party Planned

Various committees of the St. Elizabeth Aid Society of St. Mary Hospital, Cincinnati, Ohio, will meet April 28 to plan for the spring charity party to be held May 12.

New Obstetrical Equipment

St. Joseph's Sanitarium, St. Joseph, Mich., recently installed a new-type baby incubator, obstetrical bed, and a modern four-way stretcher in the obstetrical department of the institution. The equipment was purchased with a $700 fund subscribed by local firms and business men of the city.

Hospital Receives Bequest

According to recent announcement, St. Thomas Hospital, together with two Catholic churches of Akron, Ohio, will receive bequests amounting to approximately $75,000, through the will of the late Miss Ellen Roche, of Akron, who died March 18.

St. Thomas Hospital recently installed electric cauterizing and blood-clotting equipment. Proceeds derived from the presentation of the comedy, "The Whole Town's Talking," enabled the institution to purchase this new equipment.

Painting for Mission Board

A new mural, "Medical Mission in India," is being painted for the Catholic Medical Mission Board of New York City. This is one of three murals being painted for the Board by Frederick Knight, of New York City.

Study Club for Physicians

At Minneapolis, Minn., physicians and their wives are planning the formation of a study club, under the patronage of St. Luke. The members will study the life of Christ, with special attention to matters of medical interest such as the diseases mentioned in Holy Writ and the cures effected by Christ. Leadership of the club will be rotated.

Annual Statistical Report

St. James Hospital, Newark, N. J., recently issued the annual report of the hospital in booklet form. The statistical report is as follows: Patients admitted during the year, 2,391; births, 340; emergency cases, 1,999, 292 of which were admitted to the hospital; clinic cases, 2,806; total number of full-pay patients, 1,057; part-pay patients, 384; free patients, 617. The hospital announced that the year 1934 closed with a small surplus.

During the past year, the operating rooms have been completely renovated and modern equipment installed. The sterilizing room has been remodeled and the latest sterilizing unit provided. Surgical lavatories and a completely equipped room has been set aside for the doctors. Additional space has been provided for fracture and physical-therapy services, and spacious and airy quarters have been set apart for the operating-room nurse's workroom. A visitors' room also has been added on the main floor near the entrance.

Honolulu Nursing School

St. Francis Hospital School of Nursing, Honolulu, Hawaii, was organized September, 1929. The school is affiliated with St. Louis University, St. Louis, Mo. Each student is obliged to take a prenursing course before entering the school of nursing. She is then judged from the standpoint of personality, as well as from her ability to carry sound academic courses. Cultural courses also are provided. The student is obliged to pay the expenses of her prenursing course, as well as her expenses to St. Louis for affiliated service. The course

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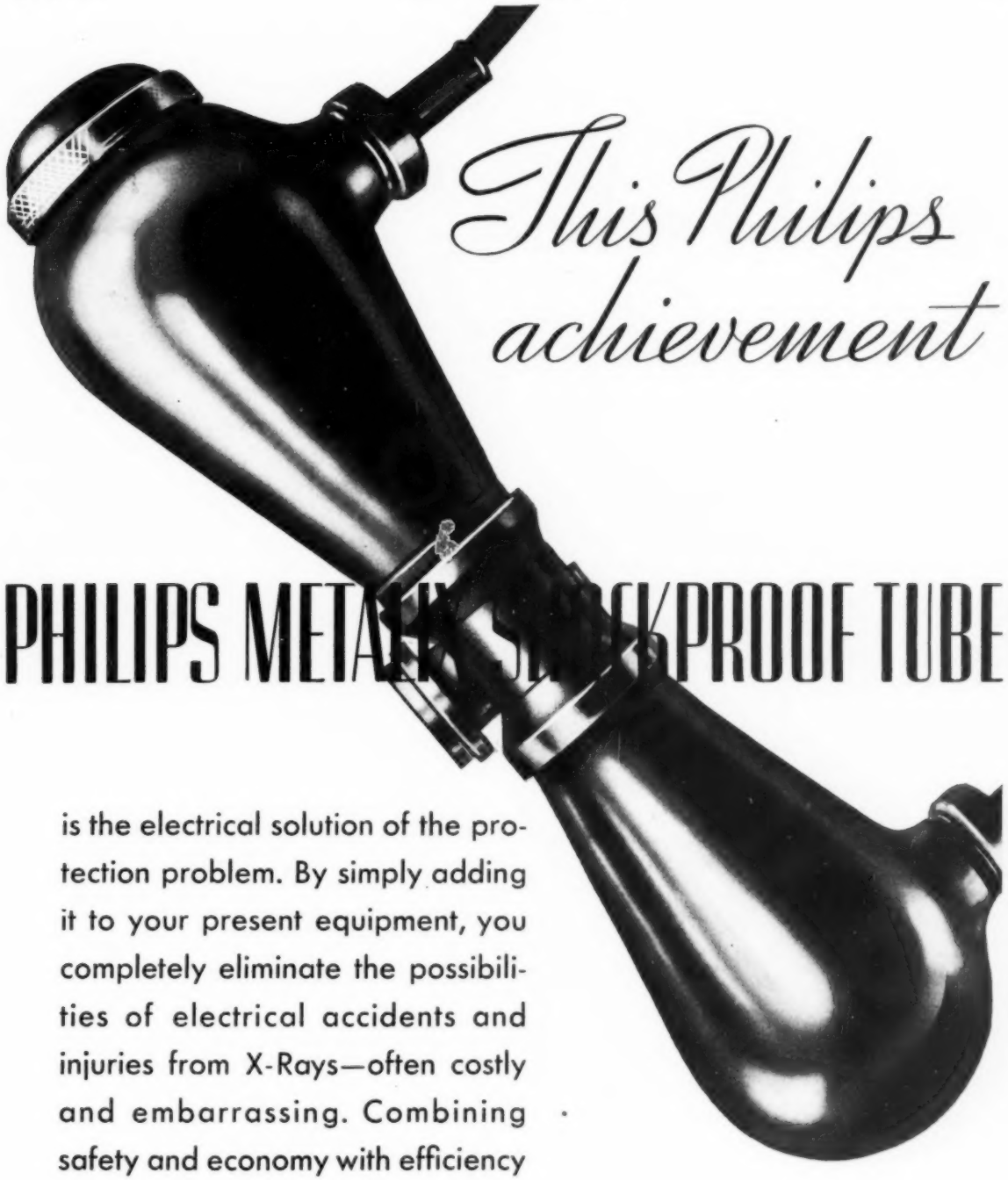

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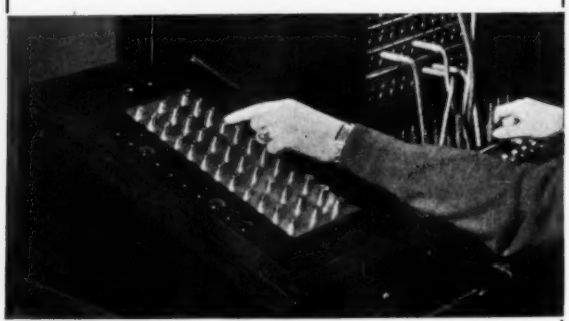

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(Concluded from Page 24A)

of the school is equivalent to that given by other schools of nursing and leads to a certificate of graduate in nursing issued by the school and qualifying the graduate for the usual territorial or state-board examination as a registered nurse. St. Louis University accepts graduates of the St. Francis School of Nursing as candidates for the degree of Bachelor of Science in Nursing and allows credit for courses taken here, which enables students to follow the five-year curriculum leading to the degree of Bachelor of Science in Nursing and the Certificate of Grading in Nursing.

Alumnae Meeting

The annual Communion breakfast for the alumnae association of St. Francis Hospital School of Nursing, Pittsburgh, Pa., was held April 7, at the nurses' home. The solemn high Mass, which preceded the breakfast, was celebrated by Rev. F. X. Foley. Rev. Paul E. Campbell, superintendent of parish schools, delivered a brief address. Mother Gonzaga, O.S.F., superior of the Sisters of St. Francis, was among the guests of honor.

A Recent Discovery

A possible cure for Bright's disease was announced at the recent meeting of the Federation of American Societies for Experimental Biology, at Detroit. The new remedy is an extract from the kidneys of hogs. It causes a drop in blood pressure and increased excretion of salt. Experiments have been carried on during the past three years under the auspices of the Chemical Foundation. About half of the patients to whom the new extract was recently administered seem to have improved.

Medical Seminar Meeting

The fourth meeting of the Newman Club medical seminar, St. Paul, Minn., was held April 16, at the University of Minnesota. Dr. Jennings C. Litzenberg, head of the department of obstetrics at the University, discussed "The Challenge of the Falling Birth Rate." Another speaker was Rev. Francis Lyons, C.S.P., who spoke on "The Catholic Church and Contraception." Following the speaking program, the remainder of the meeting was devoted to questions and discussions.

Meeting of Nurses' Guild

A meeting of the Catholic Nurses' Guild, which was organized recently at Pittsburgh, Pa., was held April 14, at the nurses' home, St. Francis Hospital. Miss Margaret Reardon, parliamentarian, was the guest speaker. By-laws were presented for discussion and adoption. Miss Mary Walton, of Mercy Hospital, Pittsburgh, is the president of the organization.

Faculty of Medicine Organized

A faculty of medicine has been inaugurated for the proposed Catholic University of Madrid, the new Catholic hospital of Madrid, Spain, founded by Most Rev. Leopoldo Eijoy Garay, bishop of Madrid, and Dr. Castresana. The hospital will be used principally by Catholic physicians as a school of medicine for the scientific training of Catholic medical students, nurses, and nursing students.

A Commencement

On February 10, twelve nurses were awarded diplomas at the graduation exercises of the Nazarene Nurses' School, Brooklyn, N. Y., which is under the direction of the Catholic Women's Association of Brooklyn. Addresses were delivered by Very Rev. Msgr. Patrick J. Rogers, and Dr. Thomas F. Nevins, who was for several years connected with the Association.

New Hospital

Tekokwitha Hospital, Sisseton, S. Dak., was opened in 1933, by the Sisters of the Divine Savior. The provincial house of this order, established in 1895, is located at 3516 West Center Street, Milwaukee, Wis.

Gelatine ADDS VARIETY TO THE DIET AT MURRAY HILL HOSPITAL

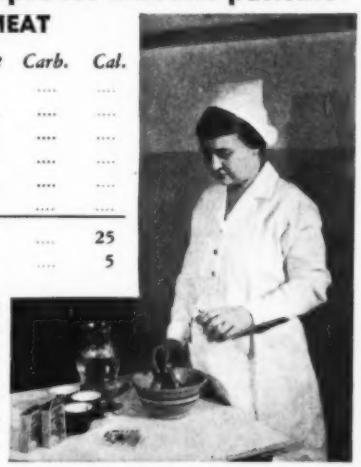
"It often requires variety to tempt the appetite of the sick," says Miss Snell, Chief of Dietetics at Murray Hill Hospital, N. Y. C. "That is why I find gelatine such a help when it comes to arranging diets for patients here. It simplifies the problem of serving something which will stimulate the desire to eat and which will be at the same time easily digested."

This is one of Miss Snell's favorite recipes for diabetic patients

JELLIED MUSHROOMS FOR COLD MEAT

	Grams.	*Prot.*	*Fat*	*Carb.*	*Cal.*
2 cups mushrooms sliced thin	....	....	....	....	....
2 cups hot water	....	....	....	....	....
1 teaspoonful salt	....	....	....	....	....
1 envelope Knox Sparkling Gelatine	7	6	....	....	....
¼ cup cold water	....	....	....	....	....
1 teaspoonful lemon juice	....	....	....	....	....
Total	....	6	....	....	25
One serving	....	1	....	....	5

Cook mushrooms in hot water and salt until tender, then drain off water and save for jelly. Pour cold water in bowl and sprinkle gelatine on top of water. Add to hot liquid from mushrooms and stir until dissolved. Add lemon juice and chill. When nearly set, stir in cooked mushrooms, mold and chill until set.



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PERSONAL NEWS ITEMS

Death of Hospital Foundress

Sister M. Ambrosia, O.S.F., foundress of St. Anthony's Hospital, Terre Haute, Ind., died March 31, at the age of 75 years. A solemn requiem Mass was celebrated in the chapel, April 2, with Rev. Lambert Weishaar, chaplain, as the celebrant. Very Rev. James B. Delaney, R.D., of St. Patrick's Church, delivered the sermon, in which he related how Sister Ambrosia had modeled her life after her patron saint, St. Francis of Assisi.

Sister Ambrosia came to Terre Haute in 1882 with the late Sister M. Rafaela. Two years later, she had complete charge of the charity wards for men. After taking her perpetual vows in 1886, Sister Ambrosia was transferred to St. Alexis Hospital at Cleveland, where she remained for seven years. She then returned to Terre Haute, where she remained at St. Anthony's until her retirement in 1925.

Death of Assistant Superior

Sister M. Clare, assistant superior of St. Catherine's Hospital, Kenosha, Wis., died recently at the institution. In 1920, as a lay nurse, she came to Kenosha from New York City, to take charge of the old St. Catherine's Hospital. In 1922, following the death of her mother, she entered the Dominican Order.

Provincial Inspects Institutions

Mother M. Stella, provincial of St. Anthony's Province of the Sisters of the Third Order of St. Francis, recently made her annual visit of inspection to the communities of the diocese of Providence, R. I. Mother Stella's headquarters are at St. Francis Hospital, Trenton, N. J.

Death of Pioneer Sister

Sister Paula Speckart, a member of the Hospital Sisters of St. Francis, died March 7 at the mother house near Riverton, Ill. Sister Paula was 74 years old at the time of her death, and had been stationed at St. John's Hospital, Springfield, Ill., for 51 years. She had been a member of the Order for 53 years, during which time she served as mother provincial from 1895 to 1905.

Death of Surgical Nurse

Wheeling Hospital, Wheeling, W. Va., mourns the loss of Sister M. Joan Droppleman, who died at the institution on March 2. Sister Joan, who was a graduate of the class of 1915 of the school of nursing, served as a Red Cross nurse at Baltimore, Md., during the world war. In 1923, she received the habit of the Sisters of St. Joseph, and, after taking her final vows in 1927, became surgical supervisor at the Wheeling Hospital. In 1931, she was transferred to St. Mary's Hospital, Clarksburg, W. Va., where, as anesthetist and surgical supervisor, she remained until the illness which caused her death.

Nursing-School Superintendent Dead

Sister M. Monahan, superintendent of nurses at the Fanny Allen Hospital, Winooski, Vt., died recently following an attack of pneumonia. She will be succeeded by Sister M. Bisson.

Sisters Leave for India

On February 14, Sisters M. Magdalene, R.N., and M. Thomas, R.N., of the Society of Catholic Medical Missionaries, sailed for India, where they will be stationed at the Holy Family Hospital, Rawalpindi, Punjab. Sister Magdalene, a native of Germany, has recently completed postgraduate work at the Georgetown University Hospital, Washington, D. C., while Sister Thomas, a native of Saratoga, N. Y., is a graduate of St. Peter's Hospital, Albany, N. Y., where for the past several years she has been surgical supervisor in the department of otolaryngology.

Death of Veteran Nurse

A solemn requiem high Mass was celebrated at St. Catherine's Hospital, Brooklyn, N. Y., for Sister Julia McAuley, who died March 16. Rev. P. J. Faustmann was the celebrant of the Mass. Sister Julia had been a member of the Sisters of St. Dominic for 46 years, and for the past 44 years had been at St. Catherine's. Here, she was in charge of various departments of the hospital, and at the time of her death was in charge of the female surgical ward and the ward for women's diseases.

Mission Doctor Honored

Dr. Peter Paul Pinto, a Catholic missionary doctor of South Kanara, India, recently received the Gold Medal for 1935, presented by the Former Pupils' Association of the Jesuit College at Mangalore, India. The Association recently decided to present a gold medal each year to the former student of the college that distinguishes himself best in social service, and this year's medal, the first, was unanimously voted to Dr. Pinto. In addition to his medical labors, Dr. Pinto also does the work of a missionary, baptizing infants, caring for the aged and infirm, clothing, feeding, and instructing the natives.

Sister Superintendent Injured

Sister M. Thomasine, superintendent of St. Francis Hospital, Pittsburgh, Pa., was seriously injured in a fall at the nurses' home. Her condition is reported as favorable.

(Continued on Page 31A)

THE TWENTIETH ANNUAL CONVENTION

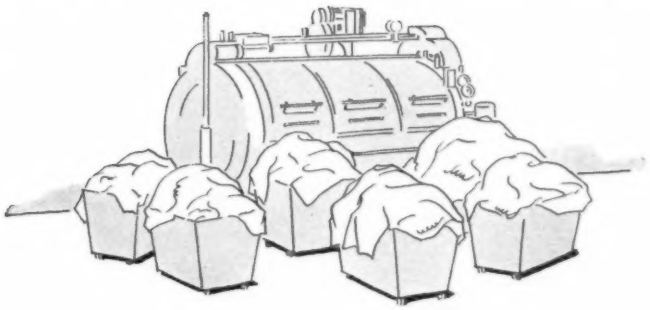
of the

CATHOLIC HOSPITAL ASSOCIATION

will be held at

Creighton University, Omaha, Nebraska

June 17-21, 1935



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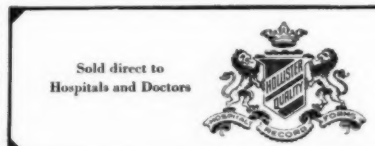

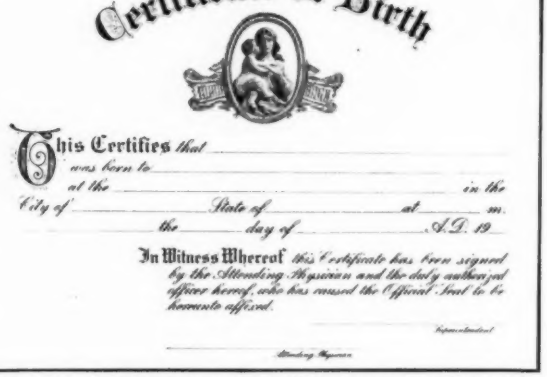
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(Continued from Page 28A)

World War Nurse Honored

On March 12, nurses and students of Colorado Springs were invited to attend a Red Cross service, held at St. Francis Sanatorium, in memory of the birthday of Jane A. Delano, who died in France in 1919. During the world war, she was head of the Red Cross nursing service.

The program consisted of addresses on "Jane Delano and Milestones in Red Cross Nursing," and "How to Become an Enrolled Red Cross Nurse," a musical program, and a playlet presented by the class in the history of nursing.

Death of Surgeon

A solemn requiem Mass was celebrated March 15, at St. Augustine's Church, Chicago, Ill., for Dr. Jacob F. Hultgen, well-known surgeon. Rt. Rev. Msgr. Francis L. Hultgen, of Tiffin, Ohio, a brother of the deceased, was the celebrant.

Dr. Hultgen had many patients among the poor of Chicago, and was known as the Good Samaritan of the "back of the yards" district. He had been a surgeon in the Spanish-American War, and for several years had taught internal medicine at the Chicago School of Medicine.

Death of Specialist

Dr. Daniel Roe Ayres, obstetrical and gynecological specialist of New York City, died recently. Dr. Ayres, who had practiced in New York City for 25 years, retired last fall, due to ill health. He had been a Fellow of the American College of Surgeons.

Death of Sister Nurse

Sister M. Baptista, a nurse at St. Elizabeth Hospital, Covington, Ky., died March 21, at St. Mary's Hospital, Cincinnati, Ohio. She had been a member of the Sisters of the Poor of St. Francis for 38 years, during which time she had been stationed at the Covington hospital for 25 years. Two nephews of Sister Baptista officiated at the requiem Mass. The deceased is also survived by two Sisters, Sister M. Aquilina, of St. Mary's Hospital, Cincinnati, and Sister M. Archangel, St. Elizabeth's Hospital, Dayton, Ohio.

A Tribute

The March, 1935, bulletin of St. Vincent's Hospital, New York City, contains a tribute to Rev. Mother Miriam Regina, president of the board of managers of the hospital, who died February 15, 1935. The statement was provided by Dr. Cornelius J. Tyson, president of the medical board, on behalf of the medical staff which desired to give recognition to the splendid and effective activity of Mother Miriam, who also had been superior of the Sisters of Charity of St. Vincent de Paul. This issue of the bulletin also contains departmental reports of the various clinical activities of St. Vincent's Hospital and a calendar of the departmental staff meetings for March.

Haiti Decorates Sisters

The Government of Haiti recently awarded the decoration "Honor and Merit," to two Sisters of the Congregation of the Daughters of Wisdom, at Port-au-Prince. They are Sister Marie Clementine, who has been a nurse in the tubercular ward of the Hospital General for 24 years, and Sister Maria Florestine, at present superior of the Asile Français, who has been in charge of the dispensary for 12 years.

Death of Aged Nun

Funeral services were held recently for Sister M. Lauda McElwee, who died recently at St. Joseph's Hospital, Providence, R. I., where she had been stationed for the past ten years. Sister Lauda, a member of the Sisters of the Third Order of St. Francis for more than 45 years, was nearly 80 years old at the time of her death.

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Physician-Scientist Honored

Dr. Edward A. Doisy, professor of biochemistry at the St. Louis University School of Medicine, St. Louis, Mo., in April, was presented with the St. Louis Medical Society's Medal and Certificate of Award for scientific research. Dr. Doisy is well known for his researches in endocrinology.

Death of Sister Superintendent

Sister Mary Vincent, supervisor and general superintendent of Mercy Hospital, Janesville, Wis., for the past nine years, died at the hospital, March 30. Sister Vincent had entered the Order of the Sisters of Mercy in 1897, and until she entered Mercy Hospital in 1909, had been a teacher in the parochial schools of Janesville.

Veteran Sister of Mercy Dead

Sister M. Raphael, for 46 years a member of the Sisters of Mercy, Albany, N. Y., died at St. Peter's Hospital, March 19. Sister Raphael had entered the Order in 1889, and during her religious life had been assistant to the superior of the Order, mistress of novices, and for five years superior of St. Peter's Hospital.

Death of Sister Nurse

Sister M. Bernard Benheimer, a member of the Sisters of St. Joseph, died March 3, at St. Francis Hospital, Hartford, Conn., following an illness of several years' duration. Sister Bernard, before her entrance into the religious life, had been a member of St. Francis Hospital School of Nursing, and had the distinction of being the first to graduate from that institution. Later she was stationed at St. Francis Hospital and also at St. Mary's Hospital, Waterbury, Conn.

Death of Providence Nun

Sister M. Hiltrude, a member of the Sisters of Providence, died March 19, at St. Vincent's Hospital, Portland, Oreg. Sister Hiltrude had entered the Order in 1885 at Vancouver, and made her religious profession in 1887. She had been stationed at various hospitals throughout the northwest.

Medical Society Honors Physician

Dr. R. J. Behan, of the staff of St. Joseph's Hospital, Pittsburgh, Pa., was recently elected president of the Allegheny County Medical Society, at the annual meeting of the organization. Dr. Behan is professor of physical diagnosis at the University of Pittsburgh, and is the author of a medical textbook, *Pain*. He is also a director of the American College of Surgeons.

Death of Infirmary Supervisor

Funeral services were held recently for Sister Eleutheria, of the Sisters of the Poor of St. Francis, who died at St. Elizabeth Hospital, Dayton, Ohio, March 19. Sister Eleutheria, a native of Toledo, had been in charge of the infirmary at the hospital since 1933. Previous to this appointment, she had been stationed at a New York City hospital for 20 years. She is survived by a sister, Sister M. Ventruia, who is stationed at St. Francis Hospital, Cincinnati, Ohio.

Brother Celebrates Jubilee

Brother John J. Knops, of the Order of St. Camillus, Servants of the Sick, celebrated his silver jubilee at St. Camillus Hospital, Wauwatosa, Milwaukee, Wis., on the feast of St. Joseph. Brother Knops entered the Order in 1900, ten years later taking his final vows. The Order of St. Camillus is the only order of Priests and Brothers who devote their life to the care of the sick. This Order established their first American hospital at Milwaukee ten years ago.

Death of Sister Nurse

Sister M. Susan McNally, a member of the Sisters of Mercy for 40 years, died at Mercy Hospital, Pittsburgh, Pa., March 20. Sister Susan, a native of Ireland, entered the Order in 1892.

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A Hospital-Day Service

On page 10A of this issue appears a very unusual advertisement, entitled "This is How it Feels to be a Princess." The advertisement, a delightful story of what the hospital means to the community, is an invitation to the public to assist your hospital. Parke, Davis and Company, Detroit, Mich., will be glad to send you reprints of this advertisement for your Hospital-Day campaign.

Commencement Exercises

On March 19, the feast of St. Joseph, St. Catherine's Hospital School of Nursing, Brooklyn, N. Y., held the 25th annual graduation exercises. Rev. Andrew I. Dawson, C.M., professor at St. John's University and a member of the teaching faculty of St. Catherine's School of Nursing, delivered the commencement address. Rt. Rev. Msgr. Timothy R. Hickey, presented the diplomas. A program of vocal music was presented by the preliminary students, followed by solemn Benediction. A reception for the graduates concluded the exercises.

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